THE BUILDER

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UGLINESS

IT has been claimed for Water Pater that, through his prose, he was able to reveal to his readers what they had not grasped before in Leonardo's painting. Modern critics tell us that academically Pater was wrong about the Mona Lisa : he was not " seeing the object as it really is," but through his temperament. It is the old metaphysical argument over again—that beauty is not a quality in things themselves, but exists in the mind which contemplates them.

We wonder if the same reasoning holds good when we come to consider ugliness. It is natural that we should seek to explore beauty and neglect ugliness. We are always interested in how a work of art reacts on a temperament which is not a common one ; but we are inclined to be a little scornful of what we consider to be the dull opinion of average mankind. Consequently, there is the possibility that our attitude towards beauty may explain why we can live side by side with ugliness. We cannot regard ugliness as a quality ; it is a defect in things, and " exists in the mind which contemplates them." Most of us are quite confident that our own judgments upon ugliness are right ; what we do not realise is that others are not " seeing the object as it really is." There is no other way of explaining the presence of ugliness. Well-meaning people erect houses which they believe exhibit the last word in modern architecture. The houses are, to our thinking, in conflict with every canon of good taste : they are quite definitely ugly. Unfortunately (or is it fortunately ?), the owners don't know, and don't know that they don't know. Lest it should be thought that we are attempting to prove that ugliness does not exist, we hasten to say that guilt which is unconscious is not accepted as a complete defence.

Quite recently Mr. Theodore Fyfe made this observation, " It is pathetic that the vast majority of people can feel the value of the good, but are incapable of taking positive action to prevent the bad." This is undoubtedly true. There are times when collective administrative action is the only possible remedy, but we are loth to believe in what is commonly known as the indirect method of attaining beauty. We hesitate about suppressing ugliness ; we are neither certain about what constitutes ugliness, nor the causes which produce it. The steps we take to preserve what we conclude to be beautiful represent another aspect of the philosophy of beauty, and must not be confused with an educated desire to prevent the growth of the ugly. The fallacy in the philosophy concerning goodness and badness (or beauty and ugliness) seems to lie in the assumption that if we can feel the value of the good we are automatically in possession of the fixed laws and principles responsible for what is bad. Bringing the argument down to the individual, we realise (judging by the house he builds) that he is incapable of positive action to prevent the ugly, because he cannot claim that he sees the object " as in itself it really is." In the final issue when we all realise the appalling results of our handiwork we rush into legislation to save us from ourselves.

During recent months the nation has given signs of becoming aware that ugliness is not a matter of opinion but a matter of fact. At least, that was how we interpreted the alarming reports of the appalling results attending our efforts in house building. Closer attention reveals to us that it is the desecration of the countryside which is really causing alarm, and Mr. Guy Dawber, the President of the R.I.B.A., did well to devote considerable space to the question in his opening address recently. From everywhere letters and articles come pouring in lamenting the destruction of this and that beauty spot. The " desirable residences " of the builder are dreaded not for what they are, but because of the beauty spots he has marked down for destruction. Even the motorist—who has a means of escape from his colony of cheap bungalows—is complaining that his area of enjoyment is being curtailed rapidly. Apart from the efforts made by the architectural profession to draw attention to the architectural side of the question, we bear in mind the letters from Mr. Cecil Harmsworth published in *The Times*. In these he refers to the depressing ugliness which has overtaken many of the villages in the Isle of Wight. Lack of taste and care in suburban developments, in buildings and in building materials, has made these villages so hideous that they are to be avoided. Indeed, the greater portion of the south-east coast of England comes under this indictment and the storm of protest is gradually increasing.

Despite the definite protests against the " vulgar and feeble " in building, we find that the major grievance is the spoliation of the country. Here we have a definite attitude towards ugliness. It is not that the builder has destroyed beauty, and replaced it with ugliness ; he has merely destroyed beauty. The physical need to have a roof to our heads is a tragedy, apparently, which we must endure. If we could only keep the countryside as it is and hide away our houses somewhere, all would be well. Modern hygiene has driven us out of our underground dwellings and spread us loose on the surface, without help or guidance. And the more we spread out the bigger is the blot on the landscape. Hence the argument that we can both build ugly houses in the ugly district, and plead that we should protect our beauty spots unbuilt upon. This is the hopeless position we reach when we drive the argument to its logical conclusion.

In desperation we seek refuge in the areas we have managed to preserve. We cannot prevent houses being built, but we foolishly believe we are attacking ugliness if we can manœuvre them into our neighbour's field. In this state of mind we must believe that we have been saved providentially from our legislators who would have made it compulsory to limit the number of houses to the acre. We confess we were alarmed at the prospect of an England turned into an enormous " garden city " : we were to have neither the benefits of the country nor the town. Our idealists knew what we wanted ; we know what we have lost. The next wave of idealism may again overwhelm us in a confusion between the real and the ideal, and if it is suggested that we should continue to spread out thinner on the land, we shall know that ugliness has been tracked down. At the moment there is every indication that the next ideal development in housing will be to compel ourselves to place restrictions upon the territory we can destroy.

We have not attempted to define what is ugly in building. That there is such a thing as building in harmony with nature, or that a nobility of building can be seen both in the Cotswold villages and in the confined spaces of the old walled towns, is positive proof that there is some standard of excellence. Either the public is unconscious of ugliness or ignores it. Charles Kingsley illustrated an attitude towards the ugly house when he made the owner explain that he lived inside and not outside. We have maintained this charitable attitude fairly consistently for many years, and force of numbers may compel us to admit that our neighbours' houses have become a nuisance to us. Obviously we are not looking for a very high code of ethics, nor for a wave of æsthetic culture. The authors of " The Pleasures of Architecture " tell us that at Boar's Hill we may see " poets and philosophers innocently housed in the jerry-builder's most hilarious efforts." While the intellectual flower of the country is unconscious of the existence of ugliness, we must believe that it can think and talk intelligently about abstract qualities in beauty. They do not see the thing " as in itself it really is."

NOTES

A Chance for Young Architects.

WHAT a neglected and misunderstood art architecture is, may be seen from the badly-designed buildings in our towns and cities; but when we consider how slight is the encouragement given to those from whom we might reasonably expect better work, we can be thankful that the result of our neglect is not more noticeable. We therefore welcome with much satisfaction, and as a sign, on the part of one at least of the great building owners of the country, of an awakening of consciousness of responsibility for some part of this neglect, the announcement that Lloyds Bank, Ltd., have expressed their willingness, as and when occasion arises, to offer to the British Rome Prize scholars after their return to England an opportunity of submitting designs for the erection of the banking premises of the Company. We may offer our congratulations to Lloyds Bank, and to Prof. Reilly, we believe, for his activity in the matter, upon an offer which should in time be reflected in our street architecture, especially as we may hope that the other great banks will come forward and make a similar offer. If they do, and the multiple shops will also move into line, we may not only give more encouragement to young architects of promise at the beginning of their career, but should secure a decided improvement in the street architecture of many of our towns.

The City Churches.

THE interesting debate on the City churches which took place at the recent dinner of the Architecture Club, left an impression that, though Lord Hugh Cecil's Union of Benefices Measure does not directly aim at the destruction of any church, it might well be the instrument by means of which an attack could, and probably would, be made upon some of these buildings. Lord Hugh himself, though denying that there was any sort of "church-breaking conspiracy," admitted that "it was a question in the case of three or four churches whether they were worth keeping in view of the considerable value of their sites. Some were very ugly buildings." In another part of his speech he referred to the destruction of "the ugliest and least interesting of the City churches." How is it possible to determine which are the ugliest and least interesting? And once these least admirable buildings are destroyed, there must still be others at the lower end of the scale of excellence, and how can we be certain that these also will not be attacked in turn? Mr. Aubrey Trevor Lawrence showed that out of a total of 900 churches in different parts of the country, considered with a view to union of benefices, only four had been destroyed, and argued that on this ratio of result the City churches were quite safe. But we have to remember that the site values of the City churches are much greater than site values in the country, and that the incentive to reap the benefit of the former must be much greater than in the case of the latter.

Artists and Iconoclasts.

LORD HUGH urged that a main object of the Measure was to relieve the Bishop of London of the pressure of the artists on the one hand and of the iconoclasts on the other. But who are the iconoclasts who are urging the destruction of the churches? Since they are not within the Church itself we presume they must be the financiers who wish to erect commercial buildings on the consecrated sites. It should not be difficult to deal with such iconoclasts if the parallel case of the Money Changers in the Temple is remembered.

Ugliness.

IT is not our intention in our leader this week to imitate Mr. Chesterton by setting up a defence of ugliness. Nor are we necessarily defending the public if we are inclined to believe that it cannot be conscious of the existence of so much ugliness. It is difficult to think otherwise. Turning to Mr. Chesterton's preface to the Defendant, we read: "No man ever did, and no man ever can make or desire to make a bad thing good or an ugly thing beautiful. There must be some germ of good to be loved, some fragment of beauty to be admired." If the idea is that "things must be loved first and improved afterwards" we can safely assert that architecture is in need of lovers.

Houses *v.* Landscape.

IT is a fair indictment that it is our dread of the builder which is mainly responsible for the efforts to preserve "unspoilt" tracts of the country. Unless it is the general opinion that the houses in themselves are ugly, there can be no serious effort to improve them. In this connection we quote an extract from an article which appeared in the Press some months ago. "I once introduced him (an architect) to a lady who lives in one of the most beautiful villages in England. 'Alas!' said she, looking at the architect for sympathy, 'it is no longer beautiful, for perfectly dreadful houses are being built in all directions.' He fixed her with his dark eyes, regarded her with an expression of some sternness, and asked, 'And are you doing anything to prevent this desecration?' The lady protested,

The Imperial Gallery of Art, Imperial Institute, South Kensington.

[It is proposed to hold in this recently established Gallery during the months of April, May and June each year exhibitions of the works of contemporary British artists at home and overseas. The Gallery, which also serves as the examining and exhibiting centre of the British School at Rome, is now partly occupied by an exhibition of drawings submitted for the final competitions for the Rome Scholarships of 1926.]

Statue of Queen Victoria, Houses of Parliament: view showing development of vents.

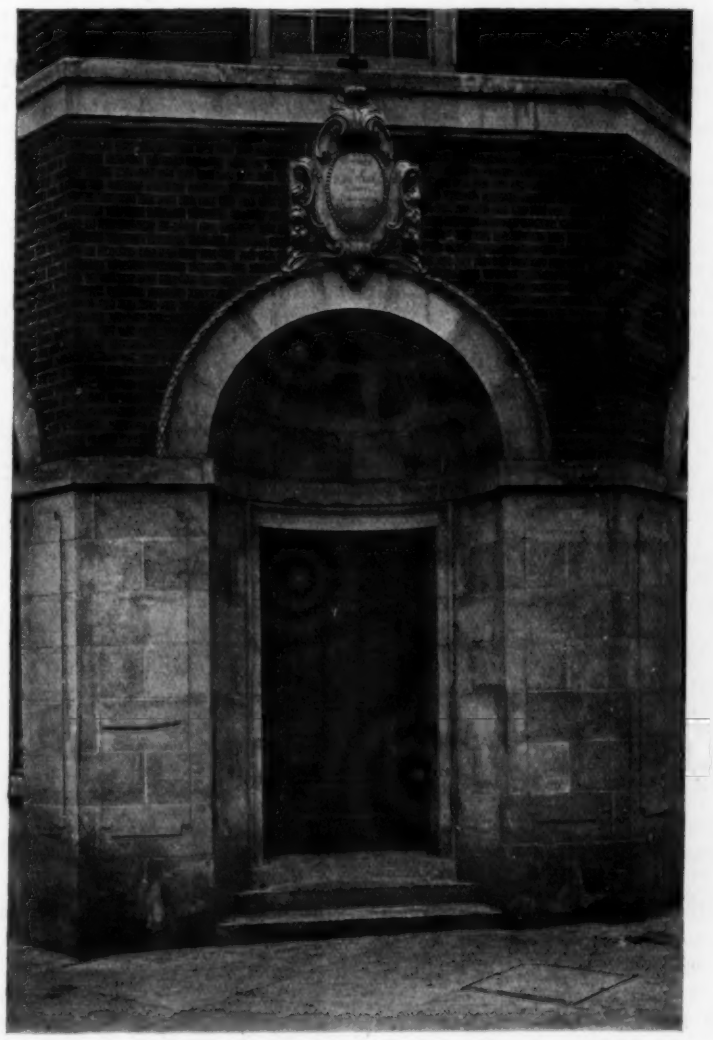
'But what can one do? One can do nothing!' The architect replied, 'I am not much impressed by people who complain to me that the jerry builder is ruining the villages and towns in which they live. I should think more respectfully of their feeling for rightness, of their sincerity, if they told me how they were canvassing their neighbours to protect these places from destruction.'" There is no suggestion, it will be observed, that the problem of ugliness is solved by moving the dreadful houses to some other position. The moral apparently is that the houses should not be built.

Train Accidents versus Road Accidents. THE Report of the Minister of Transport on Railway Accidents during 1925 contains statistics that compel a comparison to be drawn between accidents to railway passengers and the present dangers on the roads. Only one passenger was killed in the year 1925 in a train accident, and he lived for ten weeks after the accident, when death was due to heart disease accelerated by shock. In the same year 391 passengers were injured by train accidents; the figures for the preceding years were respectively 24 killed and 502 injured, and the Report states that the liability to death among passengers works out at one in 1,746.8 millions carried and the liability to injury at one in 4.4 millions carried.

The Menace of the Motor. WE cannot but compare with this the condition of affairs on our roads, which have become a sort of shambles, and where loss of life and serious injury are caused daily and barely noticed, whilst a single railway accident is treated as a serious disaster. A reckless or even drunken person, or one totally inexperienced, can drive a car on the roads and cause death and injury and little appears to be thought of it; thus, whilst a railway carriage appears to be the safest place in all the world, the crossing of a public road involves dangers that equal, if they do not exceed, those of the battlefield. The time has surely come when this matter of motor traffic must receive attention. The widening and straightening out of roads increases the danger as rendering them available for greater speed, and the penalties for driving offences are ludicrously inadequate. The Ministry of Transport may have to set up a special tribunal akin to the inquiry made by the Board of Trade into railway accidents, and fines must give place to imprisonment in cases of reckless driving, and especially in cases of drunkenness.

Rome Scholarship Drawings. THE ten designs submitted in the final competition for the Rome Scholarship, with decorative paintings and etchings, are on view at the Imperial Institute. The paintings are very disappointing and it is not easy to see how an award could have been made; it is difficult to believe that nothing better than this was forthcoming. The scholarship in architecture is awarded for a capable design by "Castor," chiefly notable for quality of plan. The Jarvis Studentship is won by "Matelot" for a quite creditable design, though of no special originality. The cleverest drawings are by "Monte," whose elevational treatment appears to us quite the best. "Roma" sent an excellent set of drawings. The Faculty are of opinion that "Castor" is in every respect the best design submitted, and recommend that the author, Mr. A. D. Connell, be awarded the Rome Scholarship for 1926. The Report is signed by Sir Reginald Blomfield. We illustrated the winning designs in our issue for July 2.

The Houses of Parliament. THE Report of Sir Frank Baines, Director of Works, H.M. Office of Works, on the condition of the stonework at the Houses of Parliament, is a comprehensive and able consideration of the subject, especially in respect to the proposals for the restoration works which are called for in consequence of the decay of the stonework of the building. The choice of Anston stone in the construction of the building is now known to have been a serious and costly mistake, and as the estimated cost of the restoration works is well over one million pounds, we are glad that careful consideration has been given to the selection of a suitable material for the repairs, and that the choice of Stancliffe stone is concurred in by all the parties consulted. We give, on another page, some part of the Report of Sir Frank Baines, whose proposals for restoration appear to be of a conservative character, though doubtless they will receive detailed consideration.



Townsend House, Westminster: Detail of Corner Entrance.
MESSRS. WILLS & KAULA, Architects. (*See p.* 820.)

GENERAL NEWS

Professional Announcement.

Messrs. Thomas Bower & E. H. Edleston, A.R.I.B.A., M.S.A., architects and surveyors, have opened new offices at No. 50, High-street, Crewe, and will be glad to receive trade catalogues from manufacturers.

The Preservation of St. Paul's.

Canon Alexander is understood to be engaged on a brief history of the scheme for the preservation of St. Paul's Cathedral from its beginning in 1913.

Rome Scholarship in Engraving.

Mr. E. B. Hoyton, a student at Goldsmiths' College, New Cross, has been awarded the Rome Scholarship in Engraving. The scholarship is of the value of £250 and is tenable for two years.

The New British Embassy, Washington.

Sir Edwin Lutyens, R.A., F.R.I.B.A., is to go, it is understood, to the U.S.A. to inspect the progress made with the new building designed by him as the British Embassy at Washington.

All Hallows Church Memorial, Southwark.

Designed by Sir Giles Gilbert Scott, R.A., a stained glass window has been erected in All Hallows Church, Southwark, to mark the golden jubilee of the church, and also as a memorial to its first vicar, the late Rev. George William Berkeley.

New Open Space at Streatham.

Norwood Grove, which has been acquired for the public and was opened by the Prince of Wales on Tuesday last, makes a notable addition of thirty-two acres to the south-easterly side of Streatham Common. It is welcome, for the district it will serve has grown greatly in population since the Common became public property in 1884, and there have been no corresponding increases in its open spaces.

Lecture on the City Churches.

Mr. Mervyn Macartney, F.R.I.B.A., F.S.A., surveyor to St. Paul's Cathedral, will give a lecture on "St. Paul's and the City Churches," at 27, Grosvenor-square (by permission of Mr. Robert Fleming), at 3 p.m., on Wednesday, November 24, in aid of the King's Roll Clerks' Association for disabled ex-Service men. Tickets (5s. each) can be obtained from the Hon. Secretary, Miss Seymour, 34, Montpelier-square, S.W.

L.C.C. and Waterloo Bridge.

Replying to a question by Mr. G. R. Straus at Tuesday's meeting of the London County Council as to what had been the decision of the Metropolitan Boroughs Standing Joint Committee with regard to Waterloo Bridge, Sir Percy Simmons stated that the special sub-committee appointed by the Standing Joint Committee to prepare a statement for submission to the Royal Commission, were of opinion that Waterloo Bridge should be rebuilt so as to take six lines of traffic, with as few piers as possible, thus in effect endorsing the Council's decision.

Power from the Sea.

A remarkable invention by means of which, it is claimed, unlimited electric power can be obtained from the sea was recently described in a communication from two French scientists read before the Academie des Sciences. M. George Claude and M. Boucherot propose to produce power by utilising the difference of temperature between the ever-tepid surface waters of tropical seas and the always exceedingly cold submarine waters. They are stated to have demonstrated their process to the members of the Academy.

A New Scholarship.

The Leeds Fireclay Company, through Mr. H. J. C. Johnston, managing director, has offered a scholarship to the School of Architecture at the Northern Polytechnic, detailed conditions of which will shortly be issued. The scholarship is of the value of £50 a year, tenable for two years.

Recasting of "Big Peter," York Minster.

A portion of the fabric of the west front of York Minster is being removed to allow of the passage from the cathedral of its famous bell, "Big Peter," which is to be taken down and recast. The bell has now been lowered to the nave from its lofty perch in the north-west tower and will be removed by the main doors at the west end. To permit of this it has been found necessary to remove the stone pillar which divides the doors. "Big Peter" weighs eleven tons and it ranks after the great bell of St. Paul's and Westminster's Big Ben as the third biggest bell in England.

"Builder" Book Prizes.

We are informed that there was good competition for the two book prizes offered by *The Builder* for measured drawings made by the students of the School of Architecture, University College, during the vacations of the session, 1925-26.

The successful competitors are as follows:—Senior Prize, J. N. Summerson, 55, Queen's-gardens, Lancaster Gate, W. 2; Highly Commended, J. B. Cochrane, 34, Doughty-street, W.C. 1. Junior Prize, E. C. Northover, 169, Friern-road, S.E. 22; Highly Commended, C. W. J. Smeed, Electric House, Station-road, Chingford, Essex.

Liverpool Blue Coat Hospital.

A committee, of which the Lord Mayor of Liverpool is chairman, has issued an appeal for £40,000 to enable the old Blue Coat Hospital to be acquired and preserved in perpetuity for the city. During the 200 years in which Liverpool has grown into a great city the old Blue Coat School has been one of its institutions. The building was erected in 1717, and is described in the appeal as "incomparably the most beautiful example of antiquity in the city." If the building can be acquired a trust deed will be executed under which it will be dedicated to the service of literature, art, and science, and preserved in its original state. The Earl of Crawford and Balcarres, K.T., Professor C. H. Reilly, F.R.I.B.A.., Sir Giles Scott, R.A., F.R.I.B.A., and Professor L. P. Abercrombie are amongst those supporting the appeal.

Statue in canopied niche, Houses of Parliament, showing decay of stonework.

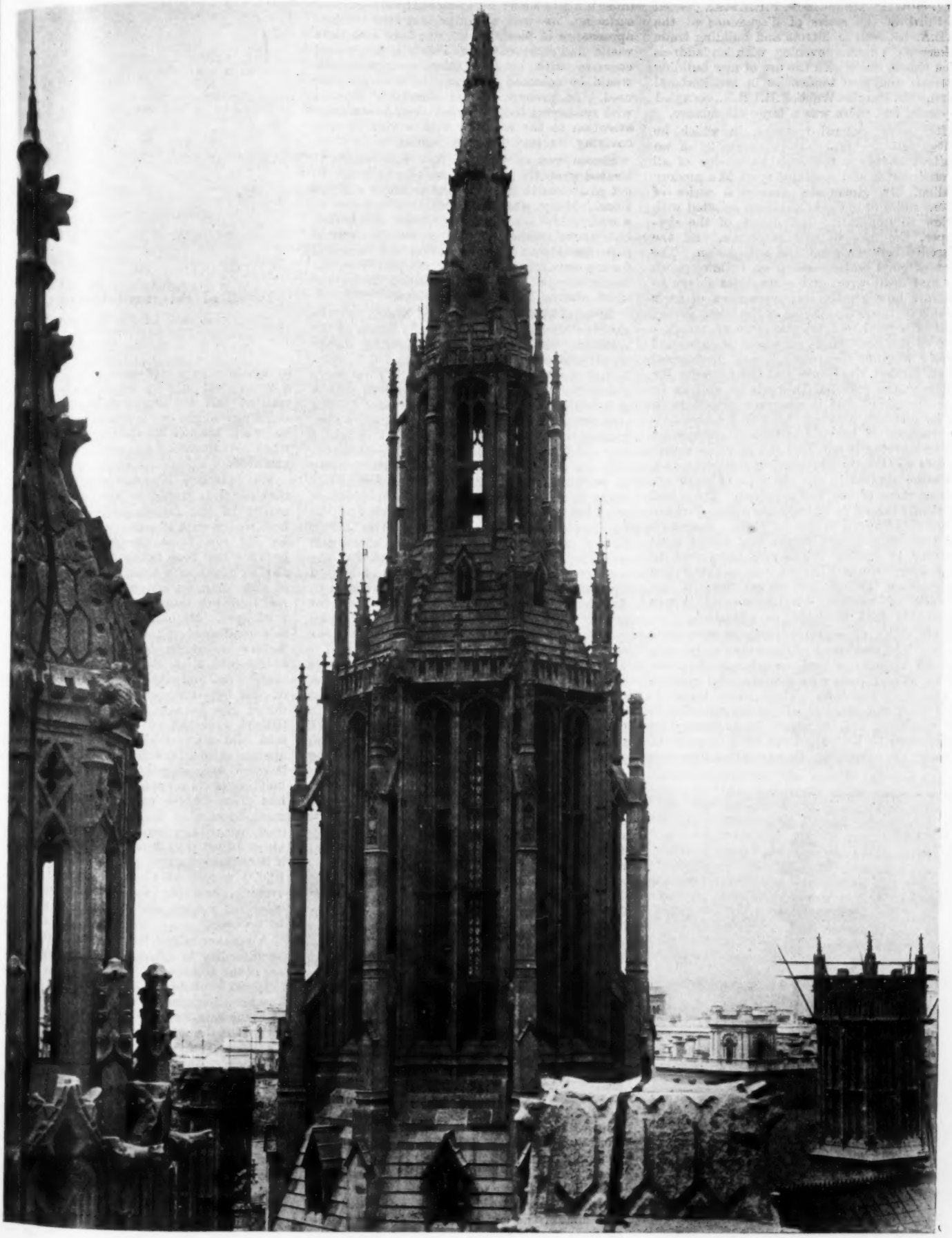
COMPETITION NEWS

COMPETITIONS OPEN.

Daily Mail **Ideal Houses Competition in two sections:— (A) houses costing £1,500; and (B) houses costing £850. Prizes: £150, £100, and £50. Apply Secretary, Ideal Houses Competition, 130, Fleet-street, London, E.C.4. Mr. E. Guy Dawber, P.R.I.B.A., assessor**	Particulars published in "Builder."	Sending-in date.
Academy, Perth. Open to architects practising in Scotland. Premiums: £100 and £50. Mr. James D. Cairns, assessor. Apply Mr. R. Martin Bates, Education Offices, Perth. Deposit £1 1s.	Sept. 10 ..	Nov. 30
Town Hall Extensions and Public Library Building, Manchester, for the Corporation. Architects of British nationality invited to submit designs in preliminary competition. Applications for conditions should be made to Mr. P. M. Heath, Town Clerk, Town Hall, Manchester, accompanied by deposit of £1 1s., returnable on receipt of *bona fide* designs. Assessors, Messrs. T. R. Milburn, Robert Atkinson, and Ralph Knott, FF.R.I.B.A.	July 23 ..	Jan. 3, 1927
Modern furniture design. Competition promoted by *Furnishing Trades Organiser*. Apply Editor, Regent House, Kingsway, London, W.C.2	Aug. 20 ..	Jan. 8
Plan for construction of Conference Hall, for League of Nations, Geneva. International Competition, Sir John Burnet being British representative on Jury of Assessors.	Nov. 5 ..	Jan. 15
Swimming Pool, Morecambe. Prizes: £100, £50, and £25, and three other awards of £10 each. Apply Mr. J. Entwistle, Town Clerk, by October 30	July 23 ..	Jan. 25
Civic Improvements, Birmingham, around Hall of Memory. International Competition. Premiums of £1,000 will be awarded author of design placed first. Further sum, not exceeding £1,000, will be divided among other competitors according to assessor's recommendation. Scheme includes: Municipal Offices, to contain City Hall, Public Library, and Lord Mayor's Mansion House. Mr. H. V. Lanchester, F.R.I.B.A., assessor. Apply Mr. Herbert H. Humphries, City Engineer, Council House, Birmingham..	Oct. 15 ..	May 16
War Memorial, Rawmarsh and Parkgate. Cost, including fees, not to exceed £2,000. Author of winning design will be invited to act as architect for erection of memorial. Prizes of 10 and 5 Guineas will be awarded authors of second and third designs. Apply Mr. J. A. Tonge, L.R.I.B.A., Surveyor's Office, Parkgate, Yorkshire, W.R...	Oct. 15 ..	May 16
General Hospital, Hereford. Limited competition. Architects with special hospital experience should send names by 10 a.m., November 22, to Mr. Seager H. Evans, Secretary, Herefordshire General Hospital, Hereford	Nov. 5 ..	—
	Nov. 12 ..	—

EXHIBITION NOTE

It is hardly possible to get much pleasure of an artistic kind from the Exhibition of the Royal Society of Portrait Painters at the Royal Academy. The personality of the sitter is often expressed with a vivid force, which is particularly attractive even when there is an absence of real artistic charm. We may take as an example the portrait of the Prince of Wales by the Hon. John Collier, which is remarkably graphic and telling in quite pleasant colour, but the surroundings are so hard and obtrusive that they tell badly against the general effect. Even if the surroundings had been quite uncertain and indeterminate they would have been far better if quite subordinated in emphasis. That a portrait may be a work of definite artistic charm is to be seen in Nos. 340 and 255. "The Coster's Baby" (340) is an admirable picture by Miss Edith Urquhart.



The Houses of Parliament: Detail View of the Central Tower from the South-East.

[This view was taken after the removal of the large copper crown and part of the stonework of the spire, and also portions of the stonework of a number of the flying buttresses, finials, dormers, &c. Note the partially dismantled pinnacle of the south centre tower in centre foreground. See Summary of Memorandum on page 833].

MODERN BUILDING MATERIALS

DISCUSSION AT ROYAL INSTITUTE OF BRITISH ARCHITECTS.

MR. HOWARD ROBERTSON, F.R.I.B.A., opened the third of the series of discussions at the R.I.B.A. between architects and building trade workers on Tuesday evening with an address which chiefly dealt with the use of new building materials and new tendencies in architectural design. Mr. Maurice Webb, F.R.I.B.A., occupied the chair, and there was a large attendance.

After some general remarks, in which he pointed out the practical impossibility of an architect having a thorough knowledge of all the engineering and specialist work in a modern building, Mr. Robertson showed a series of lantern slides of modern buildings, selected with a view to illustrating the design of the sky-scraper, the uses of new materials, and the difference between good and bad design. The effect of good craftsmanship on building work was first dealt with, and some slides shown to illustrate how greatly the appearance of roofs depends on the actual laying of the tiles. Every detail of a good roof, he said, was an arrangement of the craftsman, on whom it depended entirely whether the result looked mechanical or not. Modern conditions and the necessity for economy were reflected in roofs as well as in other directions, and it was rare nowadays to see, for instance, a swept valley in a new building, because of the difficulty and consequent cost of carrying it out, and the picturesqueness of roofs was largely disappearing in consequence. The same applied to the old type of chimney, such as those of the Tudor period. These had practically ceased to be built nowadays, because no one could afford to pay for them; the result was that an architect would find considerable difficulty in finding bricklayers competent to build them. The skill in that craft was gradually disappearing through lack of practice; it was a result of modern conditions, and it was improbable that it could be remedied.

Some slides of concrete surfaces were then shown. The treatment of concrete to give it a pleasant appearance had, he said, great possibilities, as architects were studying the question of colouring concrete. They were, however, faced with the problem of getting practice in this direction, and it would be necessary for experiments to be carried out on a large scale. Already the Building Research Station was undertaking such experiments on concrete surfacing, as well as improving the surface appearance of plaster. He was sure architects would find enormous possibilities in the use of concrete with an attractive surface, which would be coloured according to the aggregate used. At present, it was invariably covered with rendering, but craftsmen should turn their attention to the material with a view to discovering its immense possibilities.

Crocketted Pinnacle, Houses of Parliament: View showing Fractured Crowns.

Stucco was capable of very fine results if treated properly, but it was very difficult to get plasterers to carry out the architect's intentions. Many plasterers considered plaster as a material for a hard, smooth finish, and looked on textural finishes with horror, but they should experiment with the material on new lines and form a new tradition in its use apart from the hard, smooth finish which seemed to be the ideal always aimed at nowadays.

In steel-frame buildings the design of the skeleton almost passed out of the hands of the architect, and became an engineering design on a large scale, and the same applied to reinforced concrete frame buildings. They were a complex skeleton, later to be covered with a skin. In America, and to some extent in this country, all the floors, electric lighting, water, heating, and other services were put in before any attempt was made to cover the skeleton, with the result that there was no cutting away of the finished work and no attendance of one trade upon another. In the design openings were left for all the pipes and chases, and the building erected around them. The facing hardly ever exceeded 12 in. in thickness, and was simply hung from each story so that the wall never rested upon itself but was supported by each floor. In this type of construction in America a suspended scaffolding was used for laying the brick panels on the façades. This scaffold was operated by windlasses, and as each three courses or so of bricks were laid it was raised so that the bricklayer was always at the best level for his job. In bad weather the scaffold was covered in, lighted, and heated with fire buckets so that the men worked in comfort, and these good conditions of work resulted in a very large output being obtained. A further advantage of this type of scaffolding was that the architect could see the façades as they proceeded without his vision being obstructed by a maze of scaffolding.

Skyscrapers and steel-frame buildings were often reproached by architects on the ground that from the exterior one could not tell the structure, but he did not think that mattered a great deal; for after all the skin of the human being did not disclose the material of which his bones were made.

In showing some slides of buildings with the upper stories set back in accordance with the United States zoning regulations, he remarked that these regulations often governed the height of a building. Starting from the site, often fairly small because of the high land values, the building had to be built as high as possible in order to get the maximum return in rent, but as it went up the stories had to be set back until at a given height the floor area became so small that it would accommodate nothing more than the lifts and a mass of pipes.

In discussing architectural design, he said however careful and skilful the craftsman his work was wasted if the design were bad. It was generally found that the best design resulted when funds were limited and unnecessary embellishment was out of the question, and when the amount of ornament was reduced to a minimum the craftsman had an opportunity to show what he could do, for in an elevation with little ornament, what there was caught the eye and concentrated attention upon it. To ask a craftsman to work on a pretentious building with poor materials was to insult him. In modern stone buildings there was usually an enormous amount of detail, generally made by machine as a repetition job. In most cases a great deal of this detail might have been omitted and the building improved thereby. Buildings might with considerable advantage be much simpler in detail, and in this case what ornament was used must be well executed.

Detail of Fractured Hollow Crown, Houses of Parliament.

MR. MAURICE WEBB said architects realised that concrete would be used to an increasing extent in the future, and were doing their best to see that it was used properly. So far he did not think modern developments in building had been taken up in London as fully as they might have been. The American system of scaffolding, for instance, was a great improvement in providing better conditions for the bricklayer. He had had some experience with it, and although it had not been altogether satisfactory owing to the bricklayers not being accustomed to working on a swinging cradle, there were undoubtedly great possibilities for it. He hoped skyscrapers would not be introduced into London. Some time ago Mr. Cass Gilbert, architect of the Woolworth Building, told him that if all the lifts were working normally and all the staircases were unobstructed it would take an hour and a half to empty the building of its occupants; it accommodated no less than 10,000 people. What that would mean in case of fire or panic could easily be imagined. They could also imagine the enormous added congestion of the London streets if it contained a few buildings each pouring out 10,000 people at about the same time each evening, and the vast amount of work in enlarging sewage and water pipes that would be necessary.

A speaker raised the point that there might be difficulty in inspecting brickwork with the use of the new type of scaffold, and Mr. Sylvester Sullivan explained that it could be lowered at any time to permit of inspection. The question of fixing rain-water and other pipes to the outside of buildings when this scaffold was used was also raised, and Mr. Robertson said that in America this difficulty did not arise because all pipes were arranged inside the building and nothing showed on the outside.

Mr. Robertson was asked what precautions were taken to prevent condensation on concrete walls, and replied that, as a rule, hollow walls were used. In some of the taller buildings there was a damp-course on each story. This had been found necessary on account of the enormous quantity of water collected on the vast wall areas, and usually consisted of a special tile with a shoulder on the back, which threw the water out from the wall face. In reply to further questions, he said the lack of ornamentation on many buildings nowadays was principally on account of cost. This applied to concrete as well as to other materials, for there was no difficulty in moulding or carving that material.

London Architectural Medal.

At Monday evening's meeting of the R.I.B.A., the President, Mr. E. Guy Dawber, who occupied the chair, presented the R.I.B.A. Medal and Diploma for a building completed within a radius of four miles from Charing Cross during the three years ending December 31, 1925, to Sir Edwin Lutyens, R.A., F.R.I.B.A., for his building, "Britannic House," Finsbury-circus. After speaking of the merits of the building, the President congratulated the directors of the Anglo-Persian Oil Co. upon the acquisition of so beautiful and impressive a building for their use.

Mr. J. B. Lloyd, a director of the Company, having made a few felicitous remarks,

Sir Howell Williams, a director of Messrs. Howell J. Williams, Ltd., the contractors for the building, expressed his pleasure at having been associated with such a beautiful building and with its architect, Sir Edwin Lutyens who, he said, unlike some architects, treated his builder, his craftsmen and workmen as human beings, and set up a human connecting link between them.

Sir Edwin Lutyens briefly replied.

The Hon. Secretary then formally announced the death of the following members:—

Fellows.—Samuel Bolton Ashworth, John William Boyd, Walter Henry Brierley, Charles Henry Channon, Professor Charles Gourlay, Sir Charles Tamlin Ruthen, George Wittet.

Associates.—Robert John Beale, Charles Edward Sayer.

Licentiates.—Boaz Bloomer, John Charles Bourne, Robert Dixon, Arnold James Thomas Ellison, Samuel McClure, John Henry Maybury, Henry Krauss Nield, George Henry Phillott, George Guido Schwartz, William Arthur Tebbs, Edmund John Ward, William Herbert Webb.

Retired Fellow.—Edward Henry Bruton.

Retired Member of the Society of Architects.—John Kassall.

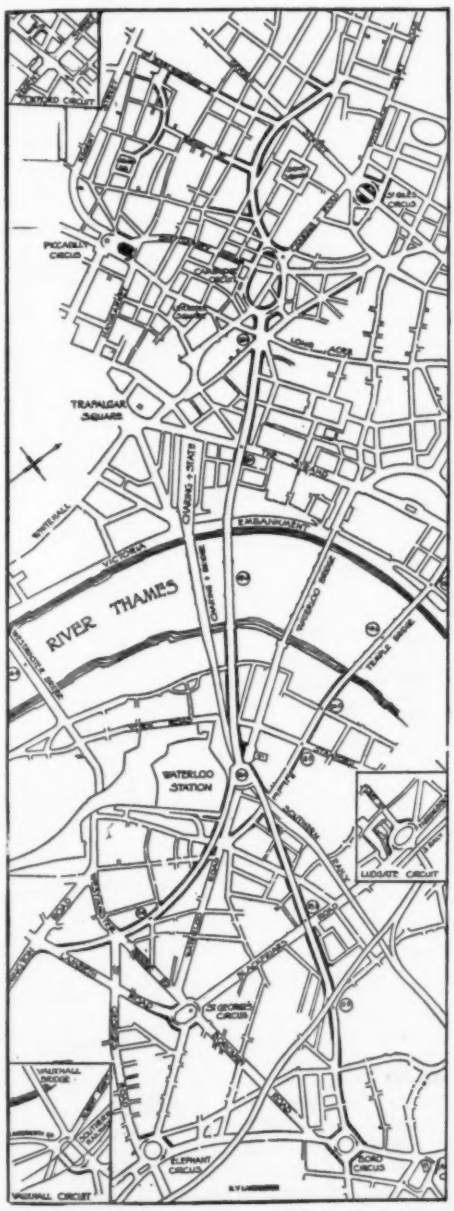
It was resolved that the regrets of the Institute for their loss be entered on the Minutes and that a message of sympathy and condolence be conveyed to their relatives.

Bridges and Traffic.

Mr. H. V. Lanchester, F.R.I.B.A., then read a paper on this subject. Starting with the initial purpose of a bridge, namely, that it was to afford a route for road, rail, or water, he said while the two latter demanded a line practically level, the first might admit of grades, which, under present conditions, might be as steep as 1 in 20. This would give an opportunity for a curved surface to the bridge as a whole, but the maximum curve possible, while appropriate to small bridges or amid rural surroundings, did not harmonise so well with the rigid lines of city buildings as a slighter one, about the equivalent of entasis on a column, in fact just enough to avoid the effect of a sagging line.

Coming to the methods of supporting this route, these might be classed under four heads, namely, the arch, the beam, the cantilever and suspension. The first was the appropriate stone form, but might also be admissible in reinforced concrete or steel; the others excluded stone except for piers and abutments, but might employ steel and concrete in varying proportions. Away from the city all these types of structure had been used with good effect, owing to the variations permitted by the scale of the environment, but within it the beam and cantilever types would almost inevitably strike one as out of scale with the surroundings, usually based on the dimensions of the human body. The suspension bridge, with its graceful reversed curves and light structure, fitted in well with buildings, but, as it was costly in upkeep, and did not now seem to be practically advantageous, except on a very large scale, we were limited to the arched bridge as the appropriate form for a normal city such as London, situated in an open river valley.

An arch with open spandrels such as would be adopted in a lofty steel bridge, obviously took the line of the catenary for a uniform horizontal load, but where the spandrel load increased towards the piers, as in a stone bridge, the modified catenary approached nearly to a segmental line, and we might then assume a segmental arch as the structurally suitable one. If for æsthetic reasons an elliptical one was thought preferable, it would demand an increase in the voussoirs towards the springing in order to enclose the catenary of varying load, which was in no case a close approximation to the elliptical line. Opinion had always been divided as to the suitability of the elliptical arch for bridge construction; to the eye it certainly sweetened the line when considered in relation to the reflected image, but it must not be imagined that under equal conditions of stress the area of the opening could be materially increased by employing an elliptical arch.



Suggested Town Planning Improvements for London.

By Mr. H. V. Lanchester, F.R.I.B.A.

An important factor in the design of an arched bridge was the section of the surface it crossed, whether level, as in the case of a broad river, or deepening towards the centre as in that of a ravine or of a railway cutting. In the former case, there need not be much variation in the spans, none in fact for a level roadway, and only enough to maintain similar proportions when the road rose towards the centre. Where a deep ravine had to be crossed, the roadway would naturally be level and the Roman practice was to preserve good proportions for each opening by varying the bays and spanning them with semi-circular arches springing from different levels, but rising to the same height. The bridge at Alcantara illustrated this method very clearly. In this case, and, indeed, wherever the arches were unequal in span, the thrust on the piers was not balanced, but this could be corrected by varying the load by means of voids, not necessarily visible ones, in the spandrels.

Assuming the arch to be segmental, we had three materials to consider, and he had endeavoured to find approximate data for the possible proportions of an arch in each of these three materials. The greatest simplification was obtainable by considering this as a matter of radius. Thus the maximum radius for a granite arch with solid spandrels was about 150 ft. (with pierced spandrels it was possible to increase this to 200 ft.), for an arch of reinforced concrete 300 ft., and for a steel arch 600 ft. He admitted the possibility of going beyond these figures, but it would only be economical to do so under abnormal circumstances.

In London it was desirable and practicable that the arches of a bridge over the Thames should, if segmental, be 8 ft. above high water level at the springing and at least 28 ft. at the crown, this giving a rise of 20 ft. Adopting the radii he had laid down, the granite arch of this rise would span 150 ft., the reinforced concrete one 215 ft., and the steel arch 308 ft., the latter rather less than the Pont Alexandre III at Paris, where the rise was 21 ft. and the span 353 ft. Of course, if the roadway were carried at a higher level, the spans could be increased by including a larger segment at the radius given. One could not claim for this rule scientific exactitude, but it was easy to remember and approximated fairly closely to established practice.

Knowing that the catenary resulting from the loads must fall within the middle third of the voussoirs, or their equivalent, if we wished to vary the form of the arch, this could be done by adding to the loads where desired. It might be regarded as extravagant, but the cost of adding the increased weight near the piers such as was demanded by the elliptical arch, was not proportionately large. In his opinion, all three materials mentioned were suitable for town bridges if artistically handled, and while there might be cases where steel would be out of character with the surroundings, he must say that it was difficult to conceive that a good concrete bridge would jar with them, as the colour might be nearly the same as granite or stone, and where cost was a consideration this was greatly in their favour. He had an impression that it was an economical mode of construction to frame the reinforcement with light lattice bracing just strong enough to carry the shuttering suspended from it, as he had employed this method in building work and found it convenient and not very costly.

In both steel and reinforced bridges, the arches could be strengthened by the inclusion of cantilever members over the piers, and, in fact, these could be constructed on the cantilever principle, though this would be to some extent a falsification. It was going rather beyond his scope to deal with such matters as pivoted or hinged construction and expansion joints, though these took an important place in modern construction, but he ought not to omit a brief note on the double-decked bridge, as it seemed probable that some of our future bridges would be of this type. Many of our girder bridges were decked at the top and bottom of the girders (the high level bridge at Newcastle, for example, also many across Indian rivers), and it was obviously practicable to strengthen and there-

fore increase the spans of an arched bridge by tubular structure above the arches. The bridge would, however, need to be fairly large in scale to stand this additional thickness over the crown of the arch. The upper viaduct to the Auteuil bridge at Paris added no strength, but only an increased load.

Another form of arched bridge (one was now being constructed for Sydney harbour), was that in which the arch rose above the road level, giving a resemblance to the bow string girder. Such a design was admissible for spans which could not be bridged without it, except by suspension or cantilevers, it being more rigid than the one and more graceful than the other. At the same time, though it might sometimes, on the grounds of economy, take the place of the arched type more usual amid city buildings, it filled the picture too emphatically and obscured the lines of the river frontages which it was important to preserve.

A point of some importance in regard to the future bridges of London was that of cost. Many of the Continental steel bridges were of striking beauty, but on the grounds of economy in upkeep all the more recent bridges were of reinforced concrete. Stone bridges of any considerable size might be regarded as obsolete, in view of the fact that it was now possible to obtain by some form of dressing a good surface texture on concrete, a texture somewhat coarser, and therefore more suited to the scale of bridge construction, than any stone usually obtainable. While it was obviously not possible to give a close estimate of the cost of a Thames bridge, the general range of cost in arched concrete bridges ran from about £20 to £35 per yard super. of deck area. As the deck area of a bridge across the Thames in or near London would vary from 4,000 to 11,000 yds. according to the position and the road width suitable, we might therefore assume that our future bridges could be carried out on lines appropriate to the surroundings at amounts ranging from, say, £150,000 to £400,000 each. This was, of course, exclusive of the approaches, which would be very much the heaviest item of the cost in the areas at present occupied by buildings, while the estimates would also have to be increased for any bridges required to be double-decked.

Dealing with the London traffic problem, the lecturer made a rough analysis of the classes of traffic in London, in two forms, viz., What the traffic consisted of, and how it was dealt with. The first was comparatively simple, and for the moment could be placed under the two heads of persons and goods; the second was more complex when we took into consideration the combinations in use, but we could start with five types: footways, wheel traffic on roads, rail traffic on roads, independent rail traffic, and water transport. To continue this analysis, taking goods first, we found that while much was dealt with at the railway yards and depots or the docks and wharves, almost the whole was collected and distributed by means of street vans, lorries, &c., the only exceptions being in the case of goods handled at a few of the larger factories, goods merely transhipped or passing into and out of London, and a small proportion of the foodstuffs delivered by rail at Smithfield. After allowing for these exceptions, London had in comparison with newer cities a high proportion of street goods transport, and would greatly benefit by such changes in organisation as might enable railways or tubes to take a larger share in this work. For example, Covent Garden Market, either in its present position or preferably in another one, should be provided with an underground rail depot as at Smithfield.

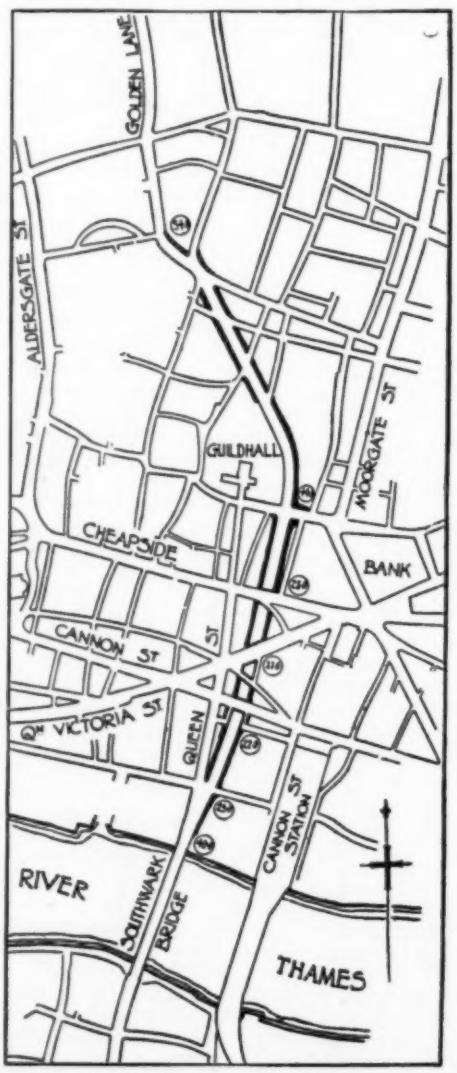
The bulk of passenger traffic was from outer London to the business centres in the morning and in the reverse direction at the end of the day. The places where the Londoner elected to live were determined primarily by two factors, cost and time. Zone maps were prepared by the Civic Survey of Greater London which illustrated these factors in a way that made it easy to realise the reason why the suburban ring varied so much in density. Cost was more uniform than time, but being to some extent balanced by reduced rents, time became the more vital factor. The daily journey in and out of London employed transport in the following proportions, reckoned in the journeys per annum, which numbered about 3,000 millions, or 400 per head of the population.

1. Tramways	34	per cent.
2. Omnibuses	28	„ „
3. Tube railways.....	10	„ „
4. Other railways	28	„ „

This did not give the relative importance of these modes of transit as the average journey by omnibus was shorter, and that on the suburban railway was longer, than those by tram or tube, many besides having to make a combined journey using rail and omnibus, tram or omnibus and tube, or other variations.

The number of passengers on 1, 2, and 3 had trebled in each case during the last fifteen years, but on 4 the number had not increased by more than 50 per cent. But for the constant increase in the speed and capacity of our public vehicles on the roads, these services would not have been able to reach their present carrying power, and with our present road system the only course by which a further gain could be secured would be the entire abolition of horse vehicles.

The lecturer emphasised his belief that the most important feature in the programme for the improvement of traffic conditions in London would be by combining the tubes with the existing suburban lines and the separation of these electrified suburban routes from the long-distance ones. We should need a few additional miles of tube to complete this scheme, and it would be very advantageous to supplement it by subways for foot passengers between the tube stations and the principal stores, theatres and hotels, which would reduce the vehicular traffic on the streets in bad weather. By this means the traffic around the terminal stations could be greatly reduced, and some of these terminals could be dispensed with. Pending such developments it seemed to him that the question of street intersections was the one most urgently needing attention, and by dealing with these we should effect the most amelioration in proportion to the expenditure. There were two main alternatives, gyratory circulation and two-level routing. The first was already proving its value, but its principles had not yet been fully understood. It did not seem to be realised that it was just as easy to circulate around blocks of buildings as around open spaces, and that to get the best result there should be a distance of some 60 to 80 yards between each of the routes entering the gyratory circle so as to allow the traffic leaving this to work through to the "near" side and that continuing on to the "off."



Suggested Roadway, part Underground, connecting Southwark Bridge with Golden-lane.

BY MR. H. V. LANCHESTER, F.R.I.B.A.

All using London streets had a fair notion of where traffic blocks occurred and the reason for these. Most of the routes running east and west were interrupted by those running north and south, and the control of traffic was further complicated at these crossings by vehicles turning to the right, so that they tended to block the line open at the moment. The gyratory circuits already mentioned would help at these points, but as new routes were under contemplation it would be well to form an idea as to which were the most needed, and suggest the treatment for these. Beginning with Charing Cross Bridge, he suggested the following conditions as essential to this scheme if it was to offer the relief worthy of its possibilities as a route. He estimated that a bridge fulfilling these conditions would provide the best route for about one-sixth of the cross-river traffic within the four mile radius:—

(1) It should not add to the complications of the traffic in and around Trafalgar-square, and the northern approach should discharge to the north of this area.

(2) The southern approaches should, as far as practicable, avoid the existing lines of route serving other bridges and should discourage the delivery of more traffic to the Elephant and Castle.

(3) Its approaches should be so designed as to enable the traffic to distribute itself freely.

(4) It was desirable that it should give high-level access to Waterloo Station.

(5) Railway communication with the north side should be maintained, and it might be well to provide accommodation in substitution for the present line.

He had sketched out a plan complying with the above conditions; it would be expensive, but he ventured to think that the facilities it provided would make it worth while. The bridge being double-decked demanded a scale giving arches of 300 ft. span (cantilever construction being employed) practically twice the length of the bays to the railway bridge. The design would admit of this proportion being related to the surroundings without discord.

Time would not admit of his dealing with a number of other important improvements which would be desirable for London, of which a list had been prepared by the Town Planning Institute, but the needs of the City itself were too obvious to be passed over. He believed that the most urgent demand was for a route running east and west, preferably independent of existing ones, connecting Whitechapel with Charterhouse-street. As it was possible to sink the Metropolitan Railway to a lower level between Farringdon-street and Aldgate, this route might be adopted as a good line, of about the same length as the present route via the Bank.

Then there was the question of the utilisation of Southwark Bridge, at present neglected because of the lack of approaches on the north. There were several possibilities here, the simplest being the provision of two spur one-way roads over Thames-street leading into Cannon-street at the Mansion House Station and out of it at Dowgate Hill. It was, however, doubtful if more traffic could be tolerated here, and he inclined towards the provision of a road passing under Cannon-street, Queen Victoria-street, and Cheapside, coming to the surface at the south-east corner of the Guildhall and con-

tinued up Basinghall-street to join Golden-lane. Part of the traffic would pass into Moorgate-street, to which this line offered a route hardly any longer than that via London Bridge. Of course, this plan would cost a good deal, but not nearly so much as St. Paul's Bridge, while it would be much more efficient by reason of its independence of the traffic along Cannon-street and Cheapside.

The utility of Blackfriars Bridge might also be enhanced by the provision of a spur route connecting Farringdon-road with St. John-street near Clerkenwell Church. This would give a clearer route between the Surrey side and Islington than the proposed St. Paul's Bridge, and only slightly longer, at a comparatively small expense. In order to free this line from the east and west traffic he had the idea, which Mr. D. B. Niven had also worked out, of a high level road between St. Paul's and the Law Courts, south of Ludgate Hill and Fleet-street, but he now doubted if this was economically practicable, and thought that the difficulty might be met by enlarging Ludgate-circus on the west side so as to provide for a gyratory circuit there.

Discussion.

Mr. Harold Swan, moving a vote of thanks to Mr. Lanchester, said the traffic problem was not to be ameliorated by traffic regulation, and we must not hope for too much from "merry-go-rounds." The motor would render the street system of London impossible. So far he believed there had been no serious, comprehensive study of the problem as a whole. The history of every improvement was that it was begun too late; improvements became obsolete before they were completed. We should begin at once, looking at least a hundred years ahead, to make an official study of the whole subject, making use of unofficial as well as the best professional assistance.

Sir Robert Perks, seconding the motion, said, with regard to the proposal to transfer Charing Cross Station to the south side of the river, we ought to think a little of the fifteen million members of the public who used Charing Cross Station every year. Numbers of these people had probably decided to live in the southern counties because of the convenience of the terminus, and they would not be any too pleased at having another twenty minutes added to the time it took to reach their destinations. Referring to the railway bridge, the speaker said he had once ventured to ask its designer, Sir John Hawkshaw, whether he considered it beautiful. "Certainly," said the engineer. "A beautiful bridge should have two qualities—strength and utility—and my bridge has both."

Lord Crawford and Balcarres said it was a question whether the Ministry of Transport, with its traffic "roundabouts," was not merely dispersing congestion instead of destroying it. No consideration was shown to pedestrians. He personally found it now took twice as long to get from one given point to another as it did twelve months ago. Though our traffic problem was grave, it had not yet reached the condition that was found in New York, where, on a Sunday, congestion extended for a distance of forty-five miles from Broadway. Because we were held up for four or five minutes it did not mean that civilisation was coming to an end. Might we not have to change our shopping hours? The most striking thing about the streets was not their congestion at midday, but their emptiness at eight o'clock in the morning. Referring to many of the recent road bridges designed by engineers, the speaker criticised their coarseness and inappropriateness. The collaboration of the architect was not only not asked, but apparently not desired.

Other speakers having contributed to the discussion, the vote of thanks was put to the meeting, carried unanimously, and Mr. Lanchester briefly replied.

Following are some notes from the minutes of the Council, October 18, 1926:—

Council for the Preservation of Rural England.—The Council nominated Mr. E. Guy Dawber (President) and Professor S. D. Adshead as the representatives of the R.I.B.A. on the Council for the Preservation of Rural England, and voted £100 as a contribution towards its expenses for the first year.

Representation of the Allied Societies on the R.I.B.A. Council.—A revised scheme of representation was approved and ordered to be submitted to the General Body for approval.

Applications for Membership.—Applications were approved from 40 candidates for the Fellowship; 71, Associateship; 5, Hon. Associateship; 8, Hon. Corresponding Membership; and one candidate for the Hon. Fellowship.

Resignations.—The resignations of the following members were accepted with regret: Percival J. Haywood, A.R.I.B.A.; A. L. Holder, A.R.I.B.A.; H. H. Langston, A.R.I.B.A.; and S. E. Davies, L.R.I.B.A.

Retired Fellowship. — Mr. T. Stevens (F.R.I.B.A.) was transferred to the Retired Fellowship.

Election of Students.—90 Probationers were elected as Students of the R.I.B.A.

CORRESPONDENCE

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

"Liabilities of Householders."

SIR,—The leader, "Liabilities of Householders," in your issue of November 12, is of particular interest because it ventilates a real grievance, especially in districts where communication pipes carrying a supply of water from a water undertaker's main to the user's, whether owner's or occupier's, premises are a few years old, and left undisturbed, would continue to function satisfactorily for a considerable time, except for the fact that owing to the introduction of motor traffic, and possibly other causes, they are subjected to strains unheard or unthought of when they were laid to perform a particular duty under the then prevailing conditions. This fact is aggravated by the practice of drivers of heavy motor vehicles searching out and traversing by-roads that happen to be in a better condition or state of repair than the ordinary or more direct routes.

The Council of the National Association of Water Users, Ltd., have had before them many complaints of the nature indicated in your leader, and are consequently able to endorse your statement that an amendment of the law respecting such pipes is necessary. In this connection it may be of interest to both your readers and yourself to know that my Council have twice lodged with the Ministry of Health their considered opinion—

> "That the ownership and liability for repair of communication pipes, viz.: the pipe under a public road or footway, should be the concern of the Water Authorities."

My Council are watching all proposed new Bills and Provisional Orders, and at the proper time will object to, and enter strong protest against, any Bills and Provisional Orders promoted that do not contain an admission of ownership and liability for the repair of such pipes by the promoters of such Bills or Provisional Orders.

Some water undertakings already lay and maintain communication pipes without regard to the value of the property.

WALTER SCOTT, Secretary,
National Association of Water Users, Ltd.,
London.

Stone Decay at the Houses of Parliament.

SIR,—In Sir Frank Baines's report on this subject mention is made of the strange fact that the stone is not laid on its quarry or natural bed; but, as far as I can gather, no explanation is suggested why this usual and perfectly simple precaution was not taken by Barry and Pugin. Both these distinguished and eminently practical architects would appear to have had some very excellent reasons for carrying out a work of this magnitude—where expense was no object—in this way; and it would, I think, be of interest to many to know what was the real reason for this break from tradition and practice in this country. In the whole of my somewhat extensive experience I cannot recall ever having come across a specification or detail where emphasis was not laid on the absolute necessity for stone being bedded on its natural bed as cut at the quarries, other than in the isolated cases of decorative features such as shafts and similar details. Possibly I may have misread the brief summary I have seen, but the impression formed on my mind is that not only are the decorative features at the Houses of Parliament constructed in this highly questionable way, but also the ashlar facings. This seems incredible—unless, of course, there are certain peculiarities about the particular stone used, which made any other method of bedding impossible.

DATA.

Statutory Registration of Architects.

SIR,—As a substitute for information I do not find the little witticisms of Mr. McArthur Butler very satisfying. If he was unable or unwilling or too busy to attempt to answer my enquiry, there does not seem to be any reason for his reply at all. For his offer to send me a copy of the Bill as soon as prints are available I am much obliged; in the meantime, I should like to repeat that I am not so much interested in knowing *how* we are to be registered, or *who* is liable or eligible for the proposed Registration, but I do want to know WHY we are to be registered.

The Bill itself is only a means to give effect to certain proposals in which the originator and promoters see some benefit. No one as yet has been able to tell me anything about what the expected benefits are. I had hoped the Secretary of the R.I.B.A. Registration Committee might have been able to do so. I fear it is hopeless. The only possible advantages that occur to me can all be obtained by other and simpler means, but it is the object and not the means that I am anxious to discover.

HORACE R. APPELBEE.

MEETINGS

FRIDAY, *November* 19.

London Society.—Mr. G. Topham Forrest on "London One Hundred Years Hence." At 18, John-street, Adelphi, W.C.2. 5 p.m.

SATURDAY, *November* 20.

The Royal Sanitary Institute.—Discussions on "Plan and Design of a Public Elementary School," to be opened by Mr. E. S. Miles. At the Town Hall, Chelmsford. 11 a.m.

MONDAY, *November* 22.

Architectural Association.—Mr. W. Bayes on "The Decoration of Walls from the Painters' Point of View." At 7 p.m.

Royal Sanitary Institute.—Mr. R. King Brown on "The Hygiene of Slaughterhouses, Markets and Other Places Where Food is Stored or Handled." At 90, Buckingham Palace-road, S.W.1. 6 p.m.

The Institution of Mechanical Engineers.—Lieut.-Colonel E. Kitson Clark on "Archæological Engineering." At Storey's-gate, S.W.1. 7 p.m.

TUESDAY, *November* 23.

Royal Institute of British Architects.—Annual Dinner. At the Guildhall, E.C. 8 p.m.

THURSDAY, *November* 25.

Royal Institution of Great Britain.—Mr. R. R. Marett on "The Archæology of the Channel Islands: Neolithic and Bronze Ages." 5.15 p.m.

The Institution of Sanitary Engineers.—Mr. H. Morley Lawson on "Municipal Hygiene, Roads and Road Making, Collection and Disposal of Refuse." At Caxton Hall, S.W.1. 7 p.m.

Society of Antiquaries of London.—Miss N. F Layard on "A Stone Age Settlement of th Transition' Period in the Colne Valley, Essex." 'At Burlington House, W.1. 8.30 p.m.

FRIDAY *November* 26.

Glasgow Architectural Craftsmen's Society.—Mr. W. Basil Scott on "Constructioual Steelwork." At the Royal Technical College. 7.45 p.m.

THE ARCHITECTURE CLUB DINNER

Debate on the City Churches.

THE tenth dinner of the Architecture Club was held on Wednesday, November 10, at the Savoy Hotel, Mr. J. C. Squire, M.A., Hon. A.R.I.B.A., being in the chair. The company, which numbered about 100, included Lord Hugh Cecil, Sir Reginald Blomfield, R.A., Professor R. Anning Bell, R.A., and Messrs. Detmar Blow, Darcy Braddell, H. Chalton Bradshaw, Herbert T. Buckland, H. B. Creswell, Ewart G. Culpin, Arthur J. Davis, Macdonald Gill, Goodhart-Rendel, H. Austen Hall, E. Vincent Harris, C. H. James, Nathaniel Lloyd, Ian MacAlister, Alister MacDonald, Oswald P. Milne, Lionel G. Pearson, A. R. Powys, C. H. Reilly, W. Harding Thompson, Philip Tilden, Septimus Warwick, and J. H. Elder-Duncan, Secretary.

The toast of "The King" having been honoured,

The Chairman, in a brief statement, said the Club was still carrying on its work, and in so far as a greater public interest in architecture was observable, it could be ascribed, at least in part, to the Club, and particularly to the efforts of its Committees. Although the Club was primarily concerned with the promotion of good new architecture, he found that there was a general desire to hear some sort of discussion on the City churches, and a short debate would follow. Modern architects were the men who, if the City churches were destroyed, would get the jobs of planning the new buildings that would be erected on their sites, and it was therefore all the more remarkable that so many architects who might possibly secure most valuable commissions should be opposed to the destruction of the churches.

Lord Hugh Cecil, opening a debate on "Pros and Cons of The Union of Benefices Measure in its Relation to the City Churches," said the Measure in some quarters was viewed either with suspicion or settled disapproval. A reflection that occurred to him when speaking to an audience of architects and artistic authorities was that British architecture must be in a bad way if, as many of them seemed to think (and he had to be guided by their judgment) the destruction of the ugliest and least interesting of the City churches, and the erection of three or four new ones in the suburbs, must result in an injury to art. He hoped that modern architects were not so ineffective as that, and that any new churches which might be built would reveal more imagination and artistic character than they seemed to suppose would be possible. The Union of Benefices Measure was quite misunderstood by many persons, and one would think from the attitude of those who opposed it that the Bishops desired to destroy places of worship with the lust of Bolshevist agitators in order to get lucre for their own ends. It was a profound delusion to suppose that the Measure was one of destruction; it was one of reorganisation. There already existed an Act of Parliament under which churches could be removed and benefices united, and twenty churches had already been removed under that Act. By a simple verdict many beautiful churches outside the City of London could be removed, such, for instance, as St. Martin's-in-the-Fields, St. James's, Piccadilly, or St. Margaret's, Westminster, without any safeguard but the Privy Council, yet nobody viewed the possibility with alarm, for the removal of these churches was not likely to happen, though the temptation to destroy them was just the same as in the case of the City churches. It was a delusion to think that the Bishops had any pleasure in destroying churches; what they wanted was to substitute a new and more effective safeguard than was provided by the Act of 1860. The new Union of Benefices Measure provided a Board consisting of thirty-five persons, fifteen of whom would almost certainly be decidedly opposed to destruction, namely, seven representatives of art interests, five local members, and three incumbents or churchwardens of the City itself. Of the remaining twenty it was only necessary to convert three in order to have a majority against the destruction of a single church. This was a considerable safeguard, though critics of the Measure seemed to think the Board was packed in order to vote always on the side of destruction. Then they had the further safeguard of a report by the Royal Fine Arts Commission, and a second possible appeal, all in the full light of publicity. The whole question turned on whether it was necessary to take action at all. The possibility of the destruction of any church was extremely small. It was then asked, why did they want the Measure? They were suspected of a great desire to obtain money. There were nineteen churches marked for destruction, it was said, and the sale of their sites would produce a sum of about one-and-a-half million. He (the speaker) was the originator of the Measure, and its purpose was to relieve the Bishop of London of an intolerable burden, that was: the pressure of the artistic fraternity on the one hand, and of the iconoclasts on the other. The object was to get a sound, trustworthy, responsible body in place of a parochial church council to settle whether it was right or wrong to remove a building. It was certainly a question, in the case of three or four churches, whether they were worth keeping in view of the considerable value of their sites. Some were very ugly buildings. Let them rid their minds, however, of the idea that there was a sort of church-breaking conspiracy; there was nothing of the kind. No one wanted to get rid of churches that were beautiful and interesting. What was wanted was to bring peace to the diocese of London and to end a vexatious controversy.

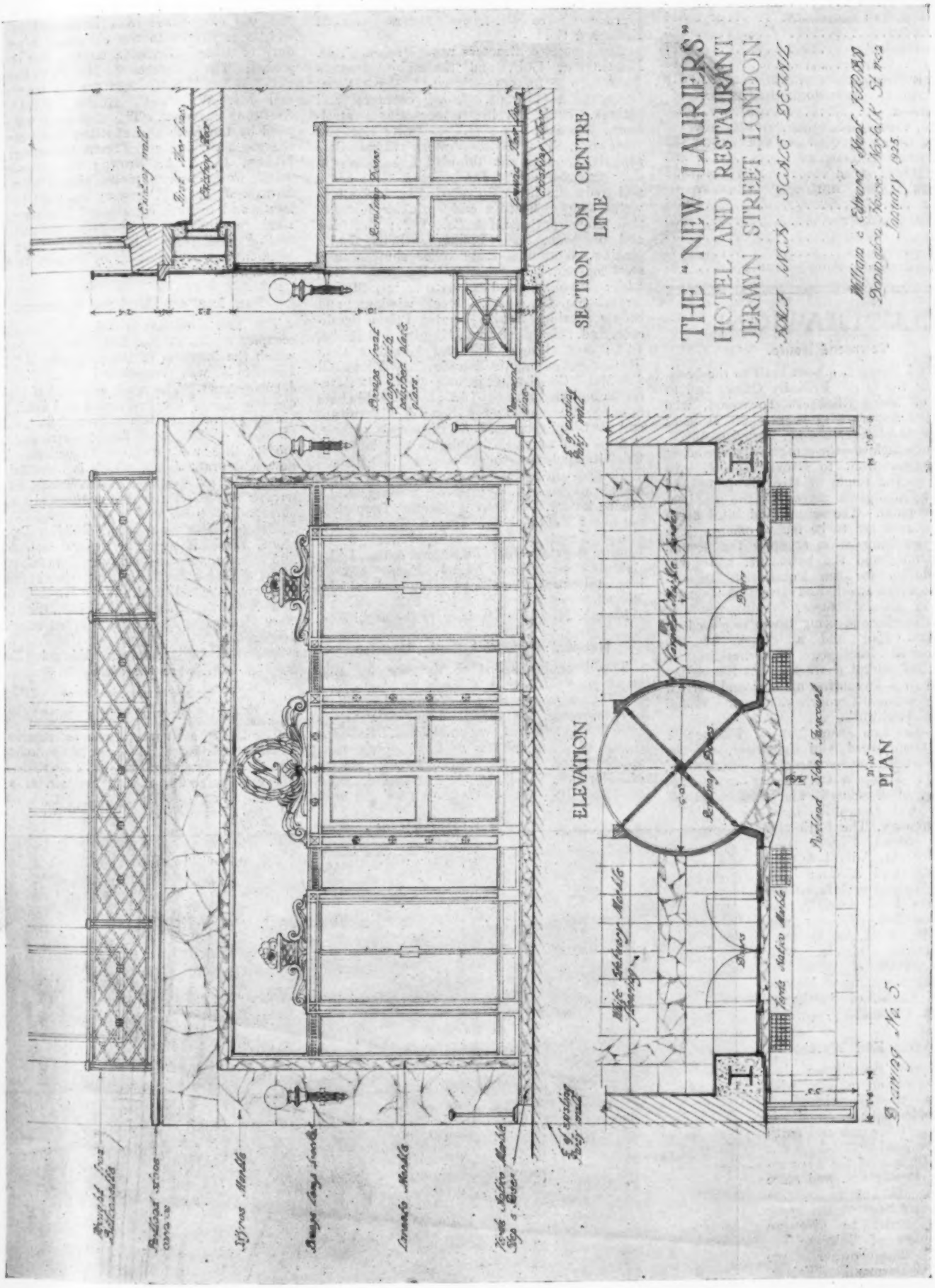
Sir Reginald Blomfield, R.A., speaking against the Measure, said Lord Hugh had given an extraordinarily persuasive account of the Bill, and implied that the only imagination that architects showed was in entirely misconceiving its purpose. Another view, however, was that the Church wanted money and, seeing that the City churches were not paying their way, said: "Let us turn them into cash and make a better use of the money elsewhere." In 1889 seventeen churches were destroyed, in 1899 two more, and later it was contended that nineteen more might well be removed. We were now told that the Bishop would have to jump innumerable fences before he could destroy any churches, but always we had staring us in the face the recommendation of a Commission that nineteen of the churches might be dispensed with. Later Commissions might go even further, and he viewed the prospect with dismay. If the principle were once established there was nothing to prevent St. Paul's from going the way of the churches. The longer he was in the City the more depressed he became. The great commercial machine went on incessantly—no doubt very usefully and efficiently—but it was absolutely heartless and indifferent to the common run of men. The objection of the man in the street to the destruction of the churches was most serious of all. The spiritual significance of these old buildings, with their quiet dignity, standing aloof from the turmoil of the streets, should not be overlooked. He thought that the Measure would recoil with bad effect upon the Church of England. The advocates of the Measure were doubtless actuated by good intentions, but if there ever was a case for leaving well alone that case was that of the City churches.

Mr. Aubrey Trevor Lawrence, Chancellor of the Dioceses of Winchester, Peterborough, Southwell, Worcester and Sheffield, speaking for the Measure, said the proposal to destroy nineteen City churches was that of Lord Phillimore's Commission, and was dead and buried. In Birmingham, Liverpool and Manchester they had this same church problem, which arose out of the movement of a living population from the centre outwards. Since 1919 there had been throughout the country 427 schemes for the Union of Benefices, involving a church in each parish, making a total of nearly 900 churches. The result had been the destruction of four, or about one-half of 1 per cent. How many City churches, therefore, would be destroyed out of 47? He thought it worked out at about one-quarter of one; therefore, on this basis, not one City church would be destroyed. It should be remembered that the Bill dealt not only with the City, but with the whole of Greater London. When they found two parishes each with a very small population they put them under one incumbent, and so made a saving. The new housing schemes provided an appalling problem for the Bishop. Thousands of houses were going up, with plenty of cinemas and public-houses, but where was the money to come from to build churches?

Mr. J. Frederick Green, Chairman of the Society for the Protection of Ancient Buildings, speaking against the Measure, said Mr. Lawrence had tried to persuade them that there was no idea of destruction, yet it appeared that the only way to provide new churches in the suburbs was by pulling down the City churches and selling their sites. Mr. Lawrence could not have it both ways; one object of the Measure was obviously that some of the churches should be pulled down. Lord Hugh had spoken of one church as being ugly and uninteresting, but who was to decide if that was so? He (the speaker) was not going to argue that every church was as interesting as any other, but he would say confidently that every church in the City was the most interesting building in the street in which it stood. Was it a right and proper thing that the sites of buildings consecrated to the service of religion for centuries past should be sold in order to build churches elsewhere? They found new Nonconformist and Roman Catholic churches in the suburbs, the money for which had been provided out of the pockets of the people and by their own self-sacrifice. Ought the Church of England to be content with being behind the other denominations in this respect and say that it was only possible to provide new buildings by pulling down old ones? Lord Wrenbury, as a member of the Ecclesiastical Committee of the House of Lords, had pointed out in *The Times* that the Measure could not be amended, which was an improper procedure. The City churches ought to be used on Sundays, and if they had "live" men as incumbents the congregations would soon come into being. In the case of one church that had been scheduled for demolition he was informed that there was an attendance of between 2,000 and 3,000 every month. Even as it was many of the churches were justifying their existence.

Lord Hugh Cecil, in a brief reply, said the object of the Bill was still apparently misunderstood. It was intended to determine what principle was to be adopted in dealing with the question of the churches, and what authority was to decide. There was a fair case for inquiry. They wanted to establish an authority that would command general respect to hear all sides of the question. He felt convinced that they would all be happier under the new Measure than under the old law.

Detail of Broken Hollow Stone Semi-crown, Houses of Parliament, due to vents.



New Lauriers Hotel and Restaurant, Jermyn-street, S.W.1 : Detail of Restaurant Front.

MESSRS. WILLIAM & EDWARD HUNT, F.F.R.I.B.A., Architects.

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ILLUSTRATIONS

Townsend House.

Townsend House has been built as the headquarters of the Girls' Friendly Offices and in memory of Mary Elizabeth Townsend, who founded the Society fifty years ago. It faces three streets—Rochester-row, Greycoat-place, and Greencoat-place—the central entrance being on the longer front to Greycoat-place. An entrance at the angle of Greycoat-place and Greencoat-place gives access to the Publications Showroom. The second and third floors for the present are to be let as offices. The Society's accommodation occupies the ground and first floor and the basement, and gives accommodation for the Publication Department, the Needlework and Overseas Departments and general offices, besides which a large semi-circular Meeting Room is placed on the ground floor and a chapel on the Rochester-road frontage. The building is Georgian in general character, but the chapel is treated in a Byzantine manner and carried out with octagonal Corngrit stone columns and small 2-in. brickwork.

The contractors were Messrs. Falkner & Sons, of Ossory-road, Old Kent-road, and the following were sub-contractors:—Steelwork, Messrs. H. Young & Co.; bricks, externally, Lawrence, of Bracknall, and those used internally, the Daneshill Brick Co.; stonework, The Bath and Portland Stone Firms; roof tiling, Roberts, Adlard & Co.; stairs, Bradford & Co.; lifts, Express Lift Co.; furniture, which has been specially designed, Messrs. Falkner and Messrs. A. Losa, of Curtain-road; glazing and steel windows by James, of Willesden.

The architects were Messrs. Wills & Kaula, of Southampton-street, Bloomsbury-square.

A New West End Warehouse.

This new warehouse has been erected on a site with frontages to Warwick-street and Golden-square, and is bounded on the south and north sides, respectively, by the Catholic Church of the Assumption and Presbytery, and office buildings. It had to be considerably set back on the upper floors in order to give an agreed angle of light to the church. The owners are Messrs. Dormeuil Frères, woollen merchants, of London, Paris, New York, Brussels, Lyons, etc., for whose purposes the building has been specially designed. The building is steel-framed and of fire-resisting materials throughout, which work was executed under the supervision of Mr. S. Bylander, consulting engineer. The building is divided by divisional walls and double fireproof iron shutters to the requirements of the London County Council. The photographs which we reproduce were taken by Messrs. Fedford Lemere & Co.

The general contractors were Messrs. F. D. Huntington, Ltd., and the sub-contractors were as follows:—Special decorations, Lenygon & Morant, Ltd.; counters and fittings, Paul Turpin; constructional steelwork, Dorman, Long & Co., Ltd.; Portland stonework, The South-Western Stone Co.; asphalt, Limmer and Trinidad Lake Asphalte Co.; fireproof doors, Diespeker & Co.; crane and hydraulic lifts, Waygood-Otis, Ltd.; hot-water supply, heating and sprinkler installation, Richard Crittall & Co., Ltd.; plumbing and drainage, John Blaikie & Sons, Ltd.; glazing, Wotton & Son; roller shutters and steel lockers, The Art Metal Equipment Co., Ltd.; granolithic and concrete stairs, Stuarts Granolithic Co., Ltd.; steel windows and copper glazing, British Luxfer Prism Syndicate, Ltd.; electrical work, Higgins & Griffiths, Ltd.; roof slating, Roberts, Adlard & Co.; lift enclosures and balustrade, The Kingsmill Art Metal Co., Ltd.; biancola work, Art Pavements and Decorations, Ltd.; models and stone carving, W. Aumonier & Son; door furniture and wrot-iron railings, J. M. Pirie & Co.; tiling, Martin van Straaten; skylights and lanterns, Crittall Manufacturing Co., Ltd.; "Silex" York non-slip stairs, Joseph Brooke & Sons; marble pavings, J. Whitehead & Sons, Ltd.; bronze letters, The Dorian Studios; ferro-glass pavement lights, J. A. King & Co.; granite, Joseph Brooke & Sons; cast-lead work, J. L. Emms; flagstaff, John Edgington & Co., Ltd.; lightning conductors, W. J. Furze & Co.; iron staircase and railings, Haywards, Ltd.; Bostwick gates, Caston & Co., Ltd.

Messrs. Mewès & Davis were the architects.

National Provincial Bank, Norwich.

The irregular shape of the site for this Bank presented many difficult problems, and it will be seen how the use of an oval vestibule has overcome the special difficulties arising from the junction of two axial lines. Existing rights of light in the adjoining properties, which stand in the very narrow streets of Norwich, had to be respected, and the lines of the elevations were dictated by these considerations. The levels of the street are such that without some raising of the building it would have, on approach, a sunken appearance. To overcome this difficulty the ground-floor levels were raised and reached by a flight of six steps, and the clock-tower was introduced to add additional height to the elevation, a portion only of which is visible on the line of approach. The architects are Mr. F. C. Palmer, F.R.I.B.A., F.S.I., Surveyor to the Bank, and Mr. W. F. C. Holden, F.R.I.B.A., Assistant Surveyor. The stonework was supplied by the Bath and Portland Stone Firms; the stone carving and fibrous plasterwork by Messrs. G. & A. Brown; the dome-light, metal work, bronze plates and lettering by Messrs. J. & R. Pearson; the steel lantern lights and glazing by Messrs. Mellowes; the steel construction by Messrs. Skelton; the marble paving by Messrs. Odling; and the bank fittings and heating by Messrs. Youngs, of Norwich.

New Lauriers Hotel and Restaurant.

The new Lauriers Hotel and Restaurant occupies a site at No. 102, Jermyn-street, to which the business of the proprietor of "Les Lauriers" was transferred from No. 27, Jermyn-street. The work consisted of the reconstruction of the restaurant and hotel, providing a new front to the ground floor, suites of rooms on the upper floors, rearranging and modernising the premises throughout. The new restaurant front, which is illustrated, is constructed of cast and drawn bronze, with a narrow margin of Levanto marble and a wider surround of "Skyros."

Messrs. The Law Land Building Department, Limited, were the general contractors, and the sub-contractors were as follows:—J. E. Singer & Sons, Ltd., metalwork; Smith, Major & Stevens, Ltd., lifts; H. C. Tanner, marble work; A. Bell & Co., Ltd., tiling; Air Vent Heater Co., Ltd., heating, hot water and ventilation.

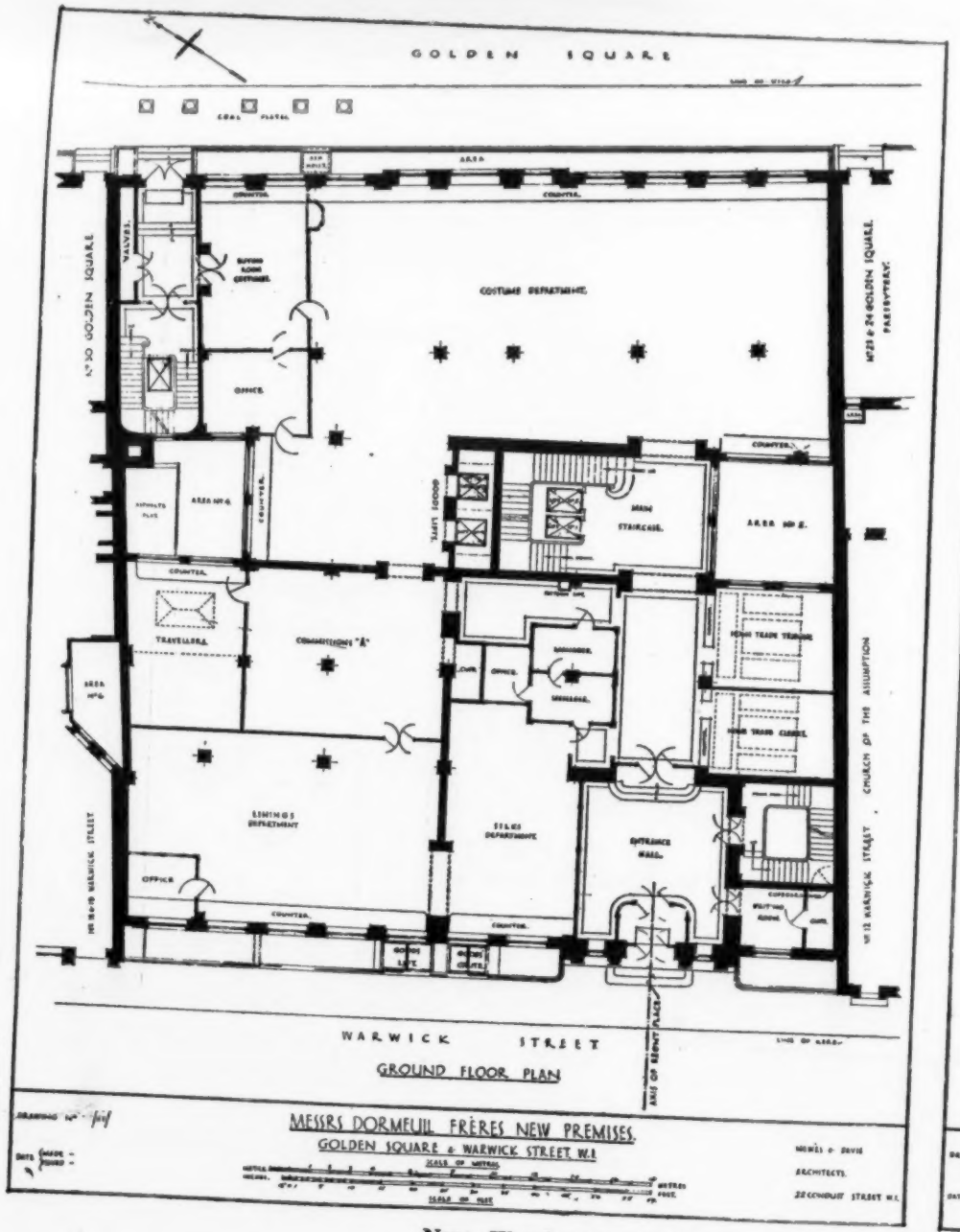
Messrs. William & Edward Hunt, FF.R.I.B.A., were the architects.

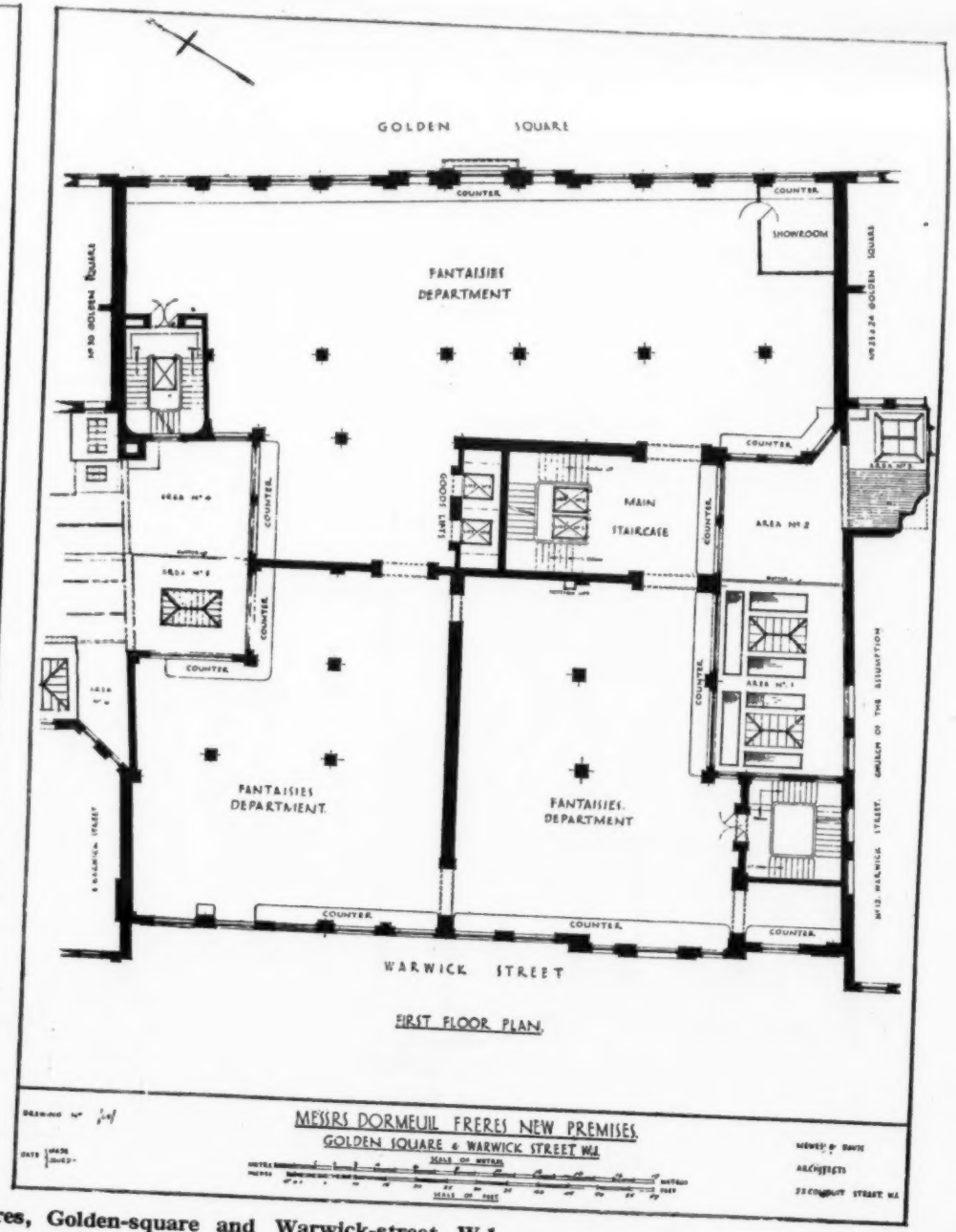
Royal Society of British Sculptors.

The following members were recently elected Fellows of the Royal Society of British Sculptors: Mr. F. V. Blundstone, Mr. L. S. Merrifield, Mr. Percy Portsmouth, R.S.A., and Mr. Allan G. Wyon.

New Lauriers Hotel and Restaurant, Jermyn-street, S.W.1: Detail of Restaurant Front.

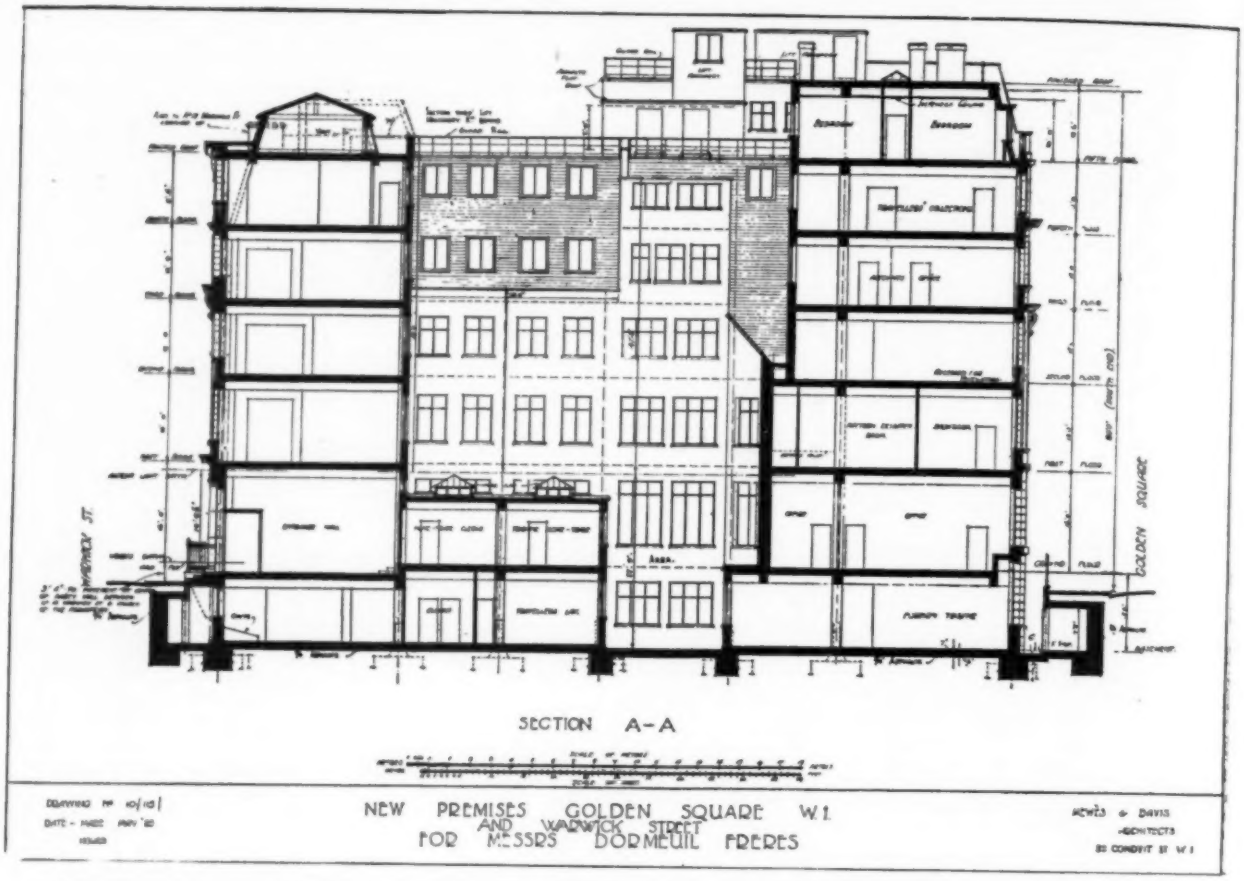
MESSRS. WILLIAM & EDWARD HUNT, FF.R.I.B.A., Architects.





New Warehouse for Messrs. Dormeuil Frères, Golden-square and Warwick-street, W.1.

MESSRS. MEWÈS & DAVIS, Architects.



New Warehouse for Messrs. Dormeuil Frères, Golden-square and Warwick-street, W.1.

MESSRS. MEWÈS & DAVIS, Architects.

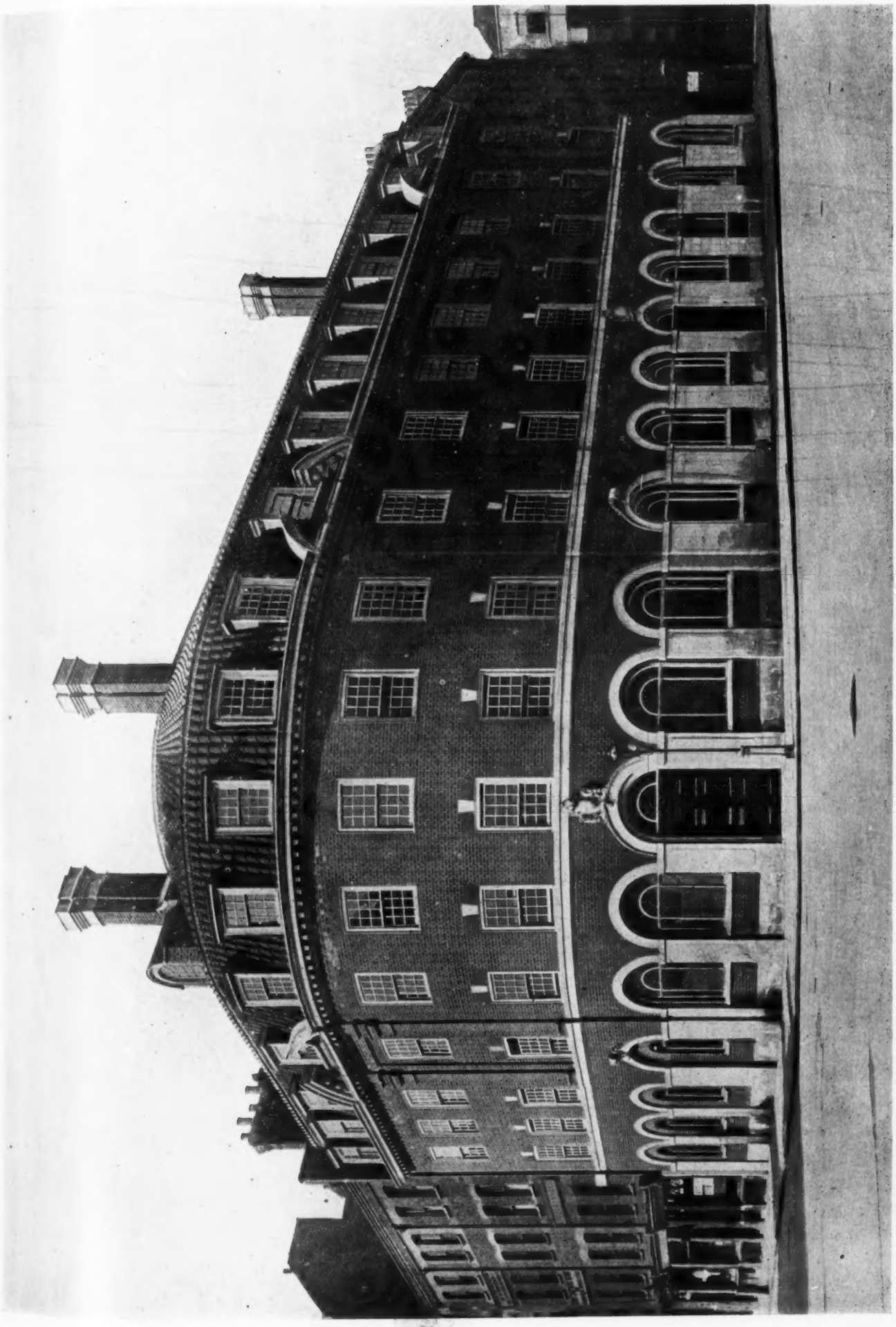
UNIV. OF MICH.

New Warehouse for Messrs. Dormeuil Frères: Detail of Warwick-street Elevation.

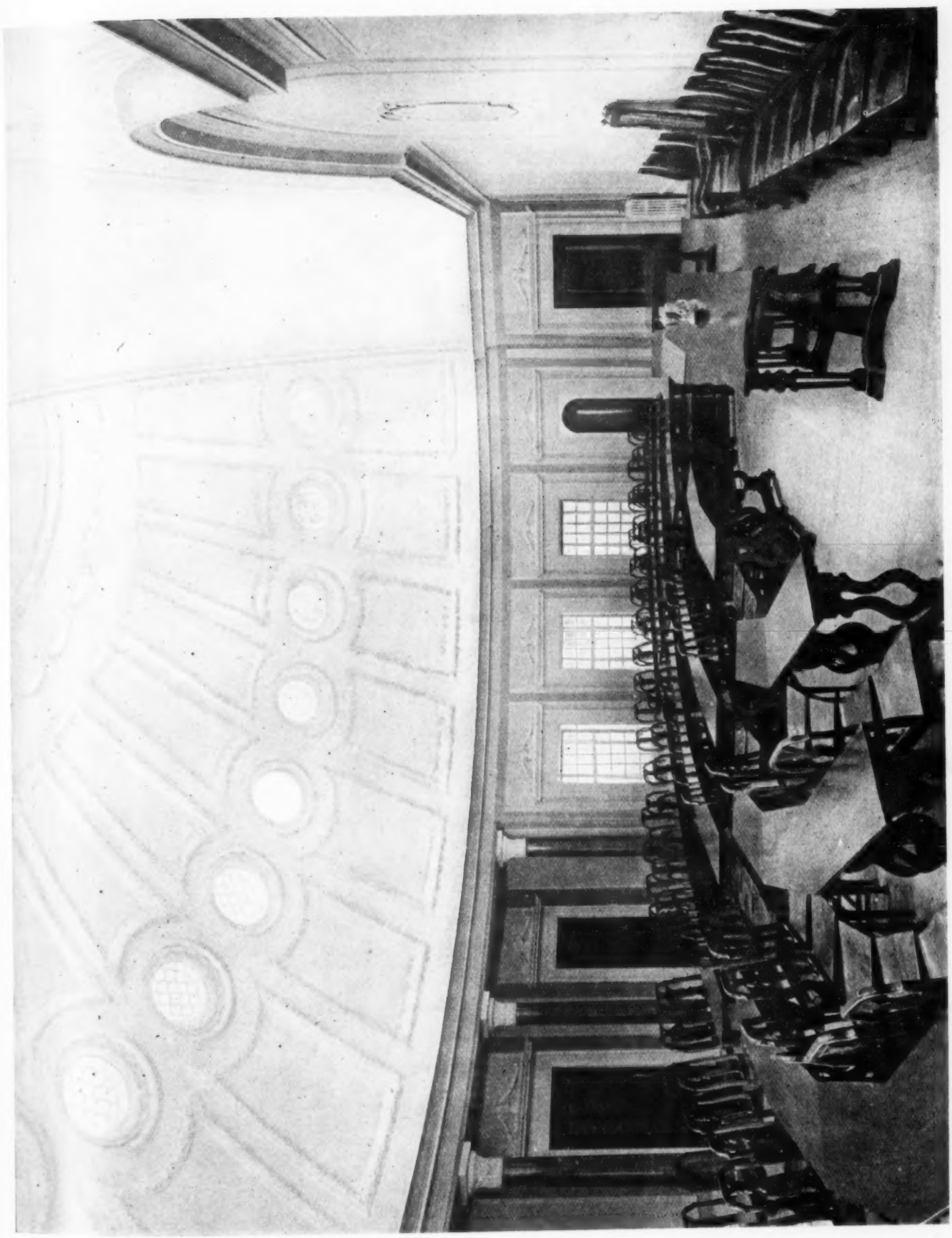
MESSRS. MEWÈS & DAVIS, Architects.

UNIV. OF MICH.

New Warehouse for Messrs. Dormeuil Frères: Frontage to Golden-square.
Messrs. Mewès & Davis, Architects.

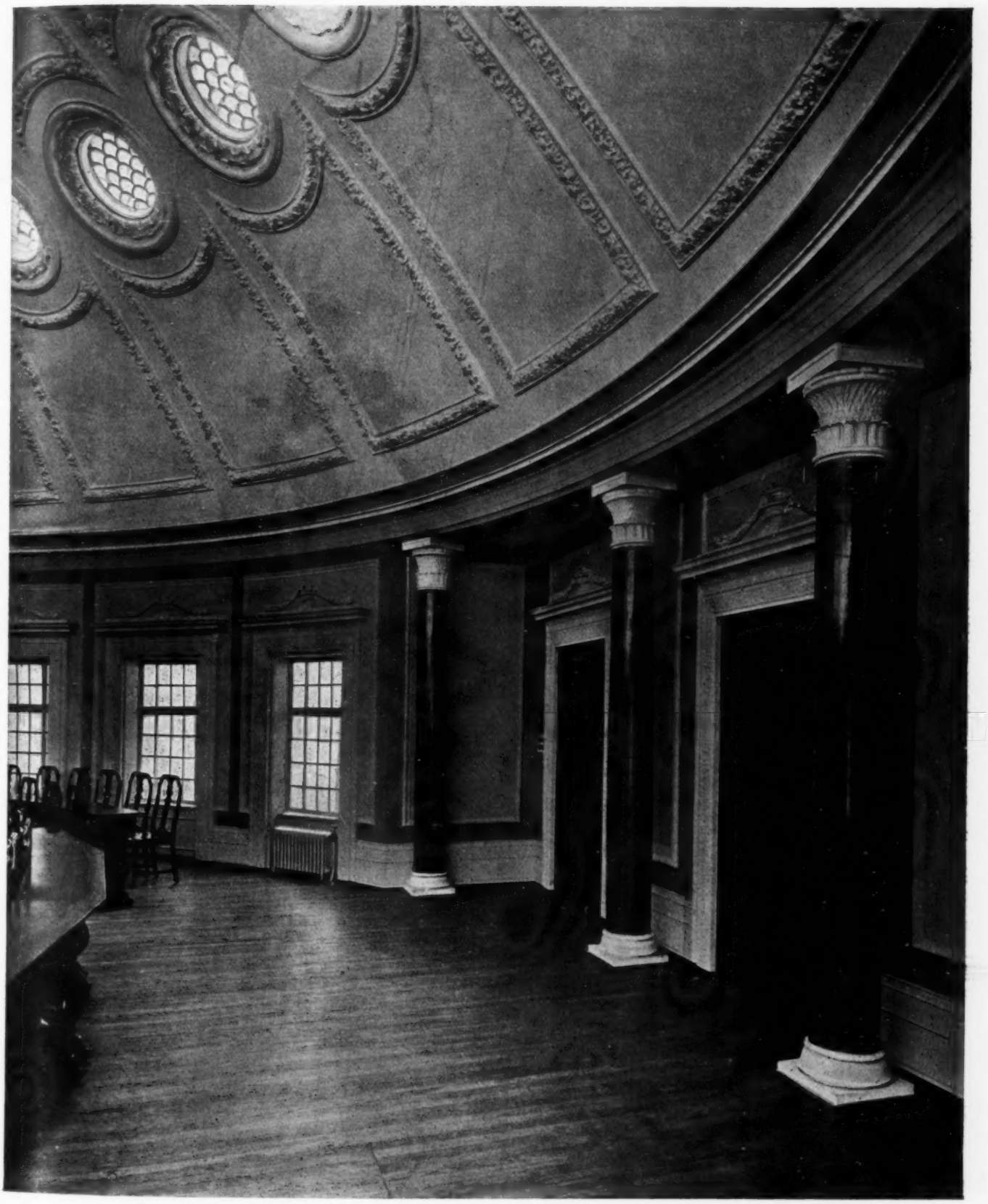


Townsend House, Greycoat-place, Westminster.
Messrs. Wills & Kaula, Architects.



Townsend House, Greycoat-place, Westminster: Meeting Room.

Messrs. Wills & Kaula, Architects.



Townsend House, Greycoat-place, Westminster: Entrance, Meeting Room.

MESSRS. WILLS & KAULA, Architects.

UNIV. OF MICH.

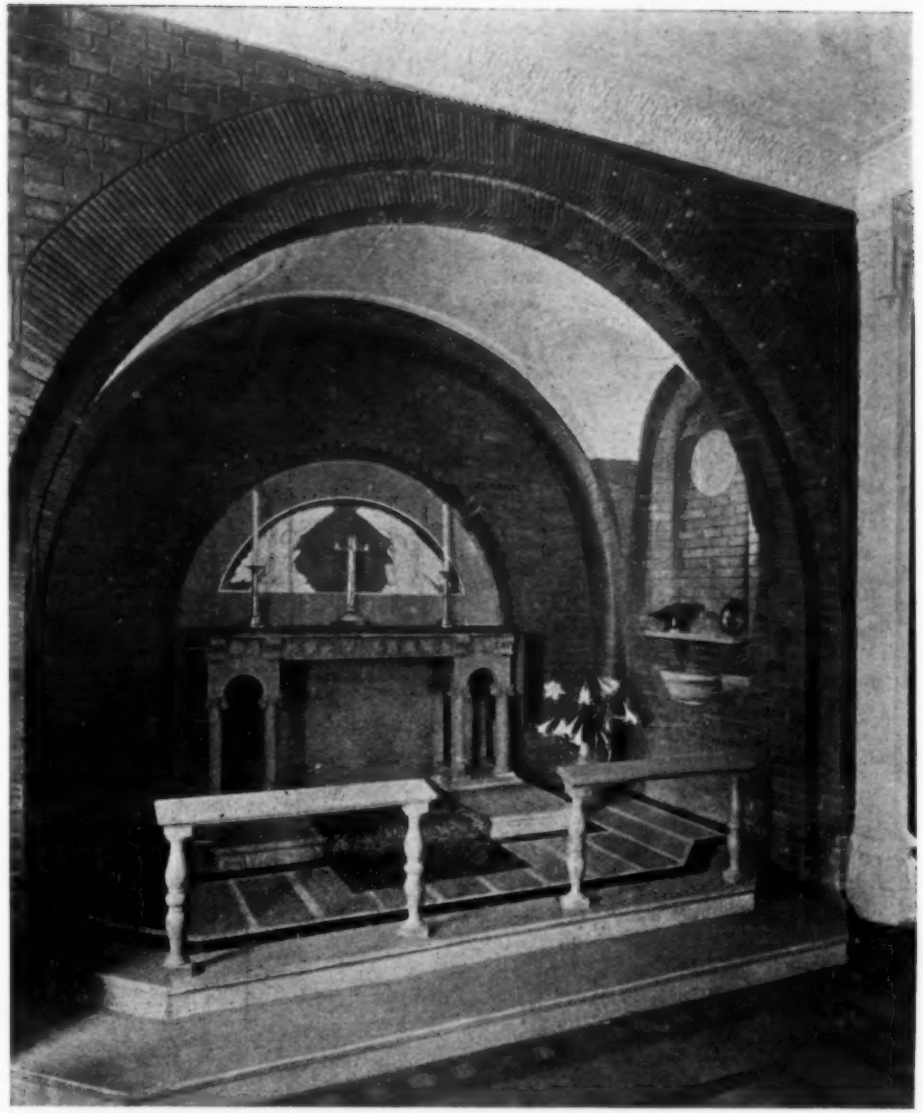
PUBLICATION ROOM.

NEEDLEWORK SHOW-ROOM

Townsend House, Greycoat-place, Westminster.

MESSRS. WILLS & KAULA, Architects.

CHAPEL.

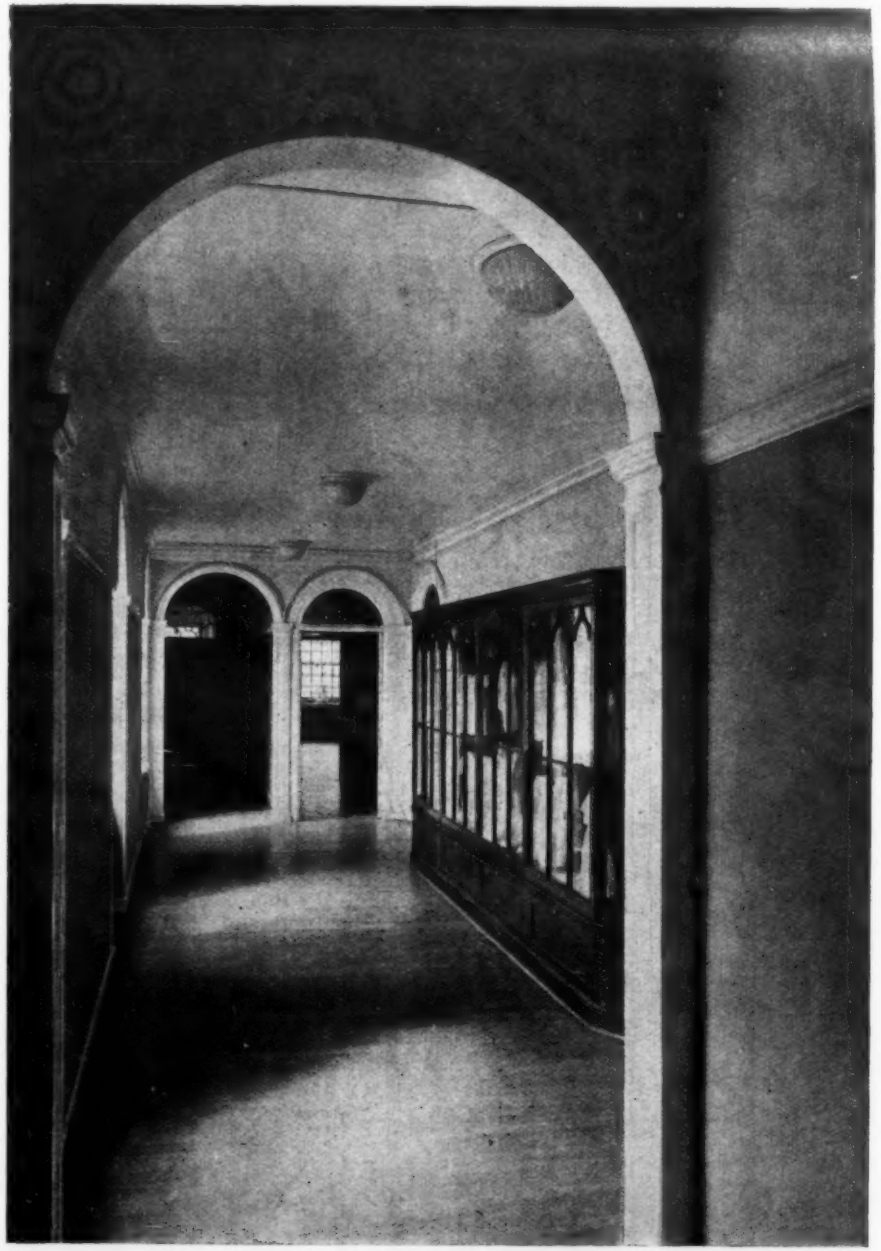


ALTAR.

Townsend House, Greycoat-place, Westminster.

MESSRS. WILLS & KAULA, Architects.

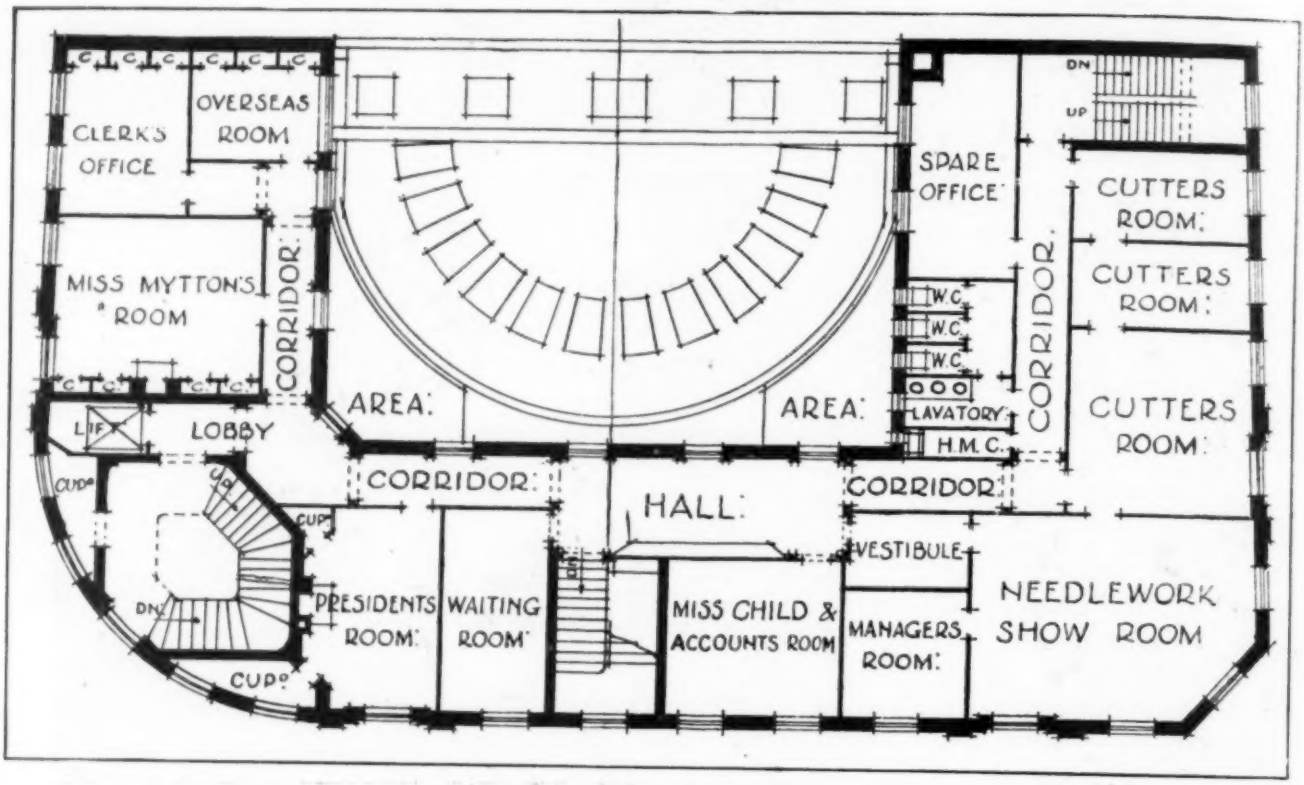
ENTRANCE HALL.



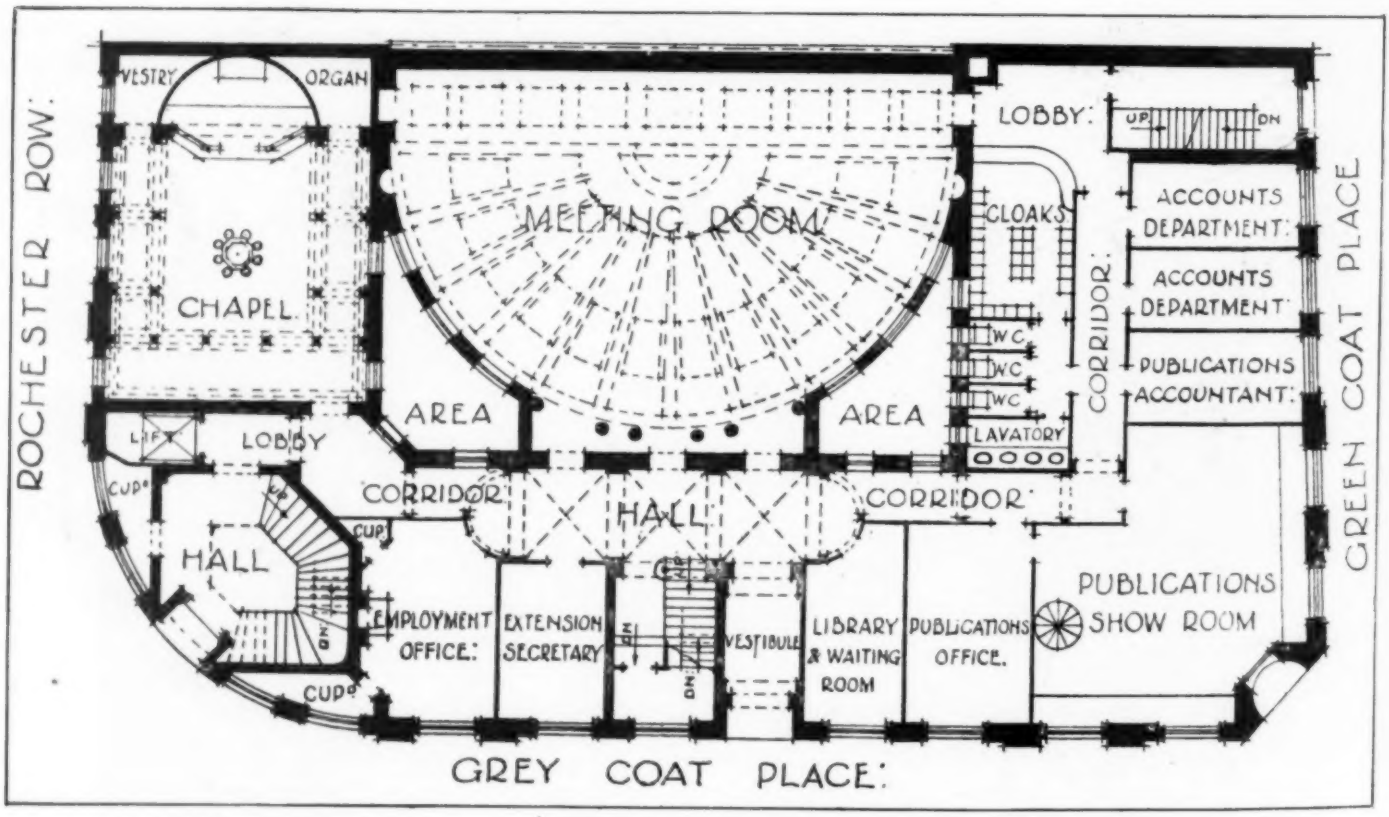
FIRST-FLOOR LANDING.

Townsend House, Greycoat-place, Westminster.

MESSRS. WILLS & KAULA, Architects.



FIRST FLOOR PLAN.



GROUND FLOOR PLAN.

Townsend House, Rochester-row, Westminster.

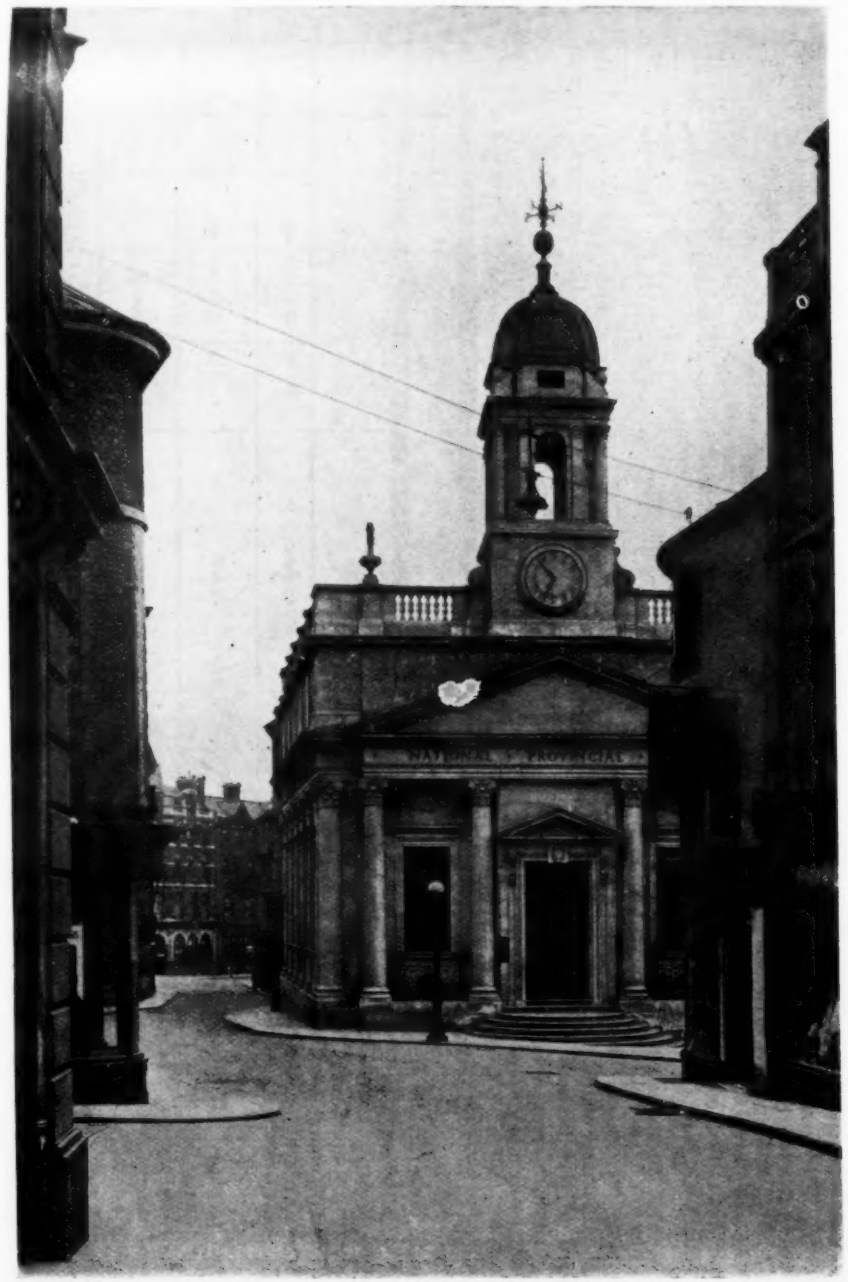
MESSRS. WILLS & KAULA, Architects.

National Provincial Bank, Norwich: Detail of Entrance Front.

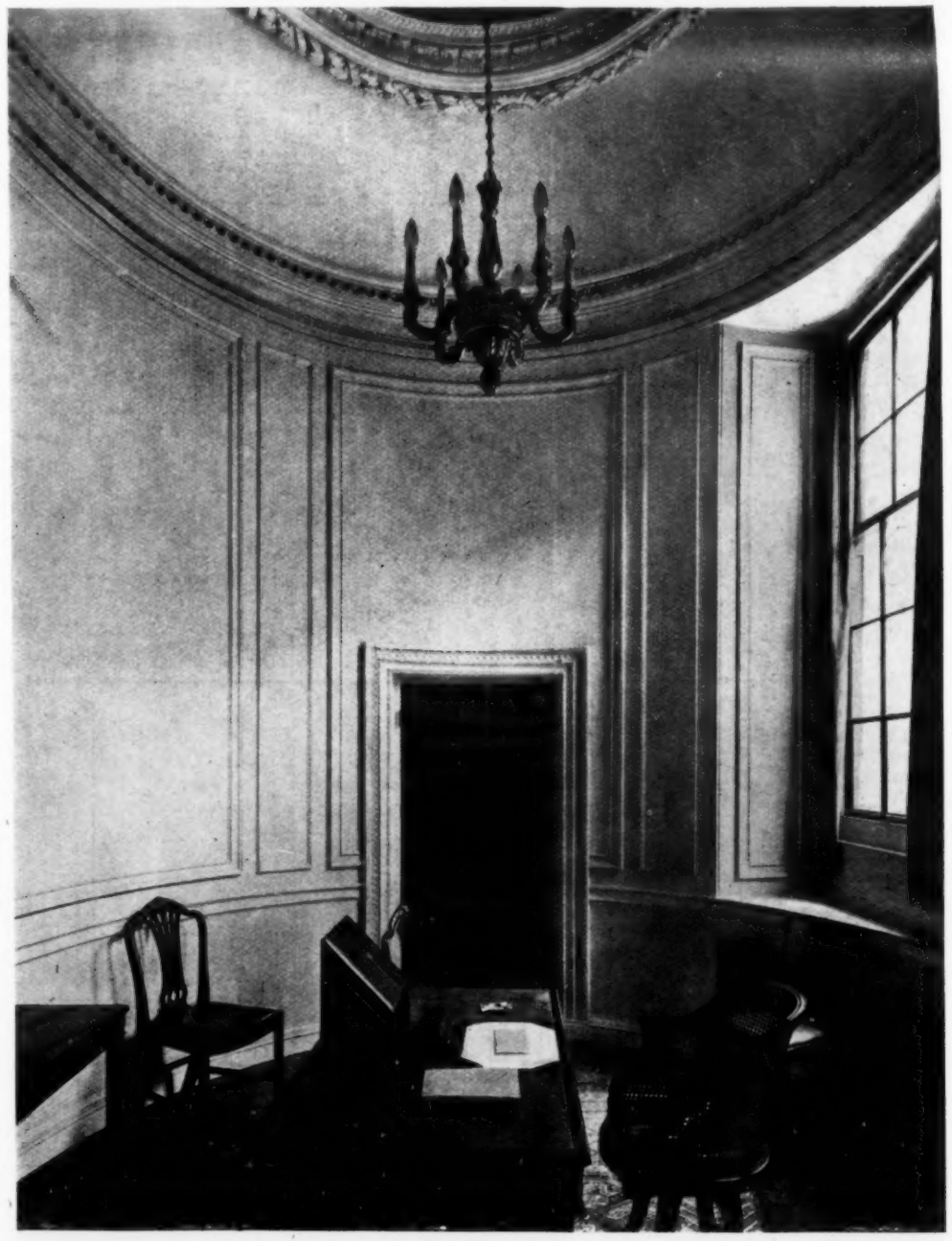
Messrs. F. C. Palmer, F.R.I.B.A., F.S.I., & W. F. C. Holden, F.R.I.B.A., Surveyor and Assistant Surveyor to the Bank respectively.

National Provincial Bank, Norwich : Banking Hall.

Messrs. F. C. Palmer, F.R.I.B.A. F.S.I., & W. F. C. Holden, F.R.I.B.A., Surveyor and Assistant Surveyor to the Bank respectively



A GENERAL VIEW.



CONSULTING ROOM.

National Provincial Bank, Norwich.

MESSRS. F. C. PALMER, F.R.I.B.A., F.S.I., & W. F. C. HOLDEN, F.R.I.B.A., Surveyor and Assistant Surveyor to the Bank respectively.

CONSTRUCTIONAL STEELWORK SIMPLY EXPLAINED.—X

By OSCAR FABER, O.B.E., D.Sc., M.Inst.C.E., etc.

[EDITORIAL NOTE.—*This series, which will be published in book form later, is intended to present the problem in so simple a form as to be readily understood by those having no special engineering training.*]

IT is important to realise that the law that the stress in a beam varies directly as the distance from the neutral axis, although only derived and used so far in connection with beams of rectangular section in what has preceded, is of quite general application, as may be seen by noting the argument on which it was deduced, and therefore applies equally to beams of steel-joist section.

The reason this did not affect our formula for the resistance moment of steel joists was because the thickness of the flange was small compared to the distance from the neutral axis, and therefore the variation of stress between the two edges of a flange was small.

When a flange is greatly thickened by riveting several additional plates to it, allowance must, however, be made. We may then work to the average stress, and should select this stress somewhat below the maximum permissible, so that the maximum, which of course occurs at the extreme edge, shall not be excessive. This may be done as in the example which follows.

We also need to make allowance for the holes drilled through the flanges for the rivets. Even if the rivets fill the holes completely—and therefore allow of compressive stresses across them—clearly no tension stress can occur across the holes in the tension flange, and hence the area of such holes is deducted from the area of flange when calculating the resistance moment.

Both these little refinements are exemplified in the following. Fig. 17 shows a built-up beam consisting of an 18 in. by 7 in. steel joist, to which is riveted four 12 in. by ¾ in. plates to each flange, two rows of ¾ in. rivets being used on each flange, the area of flange of the joist being 7 in. by 1 in.

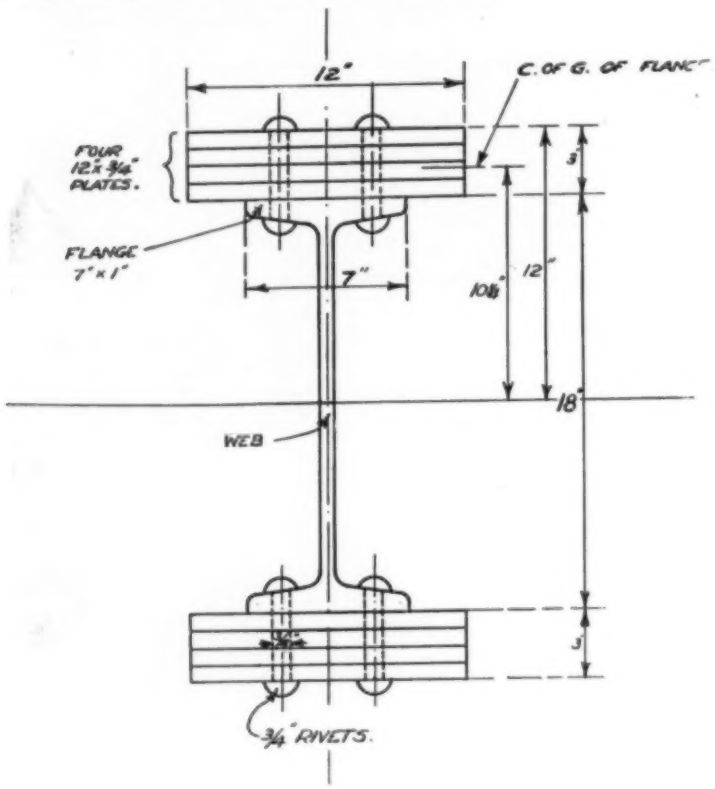


FIG. 17.

The strength of this would be calculated as follows:—

	Area of flange.
Four plates, 12 in. by ¾ in. ...	36 sq. in.
Joist flange, 7 in. by 1 in. ...	7 ,,
Gross area	43 ,,
Deduct for rivets:	
Twice 4 in. by ¾ in.	6 ,,
Net area	37 ,,

The centre of gravity of the flange is 10½ in. from the neutral axis, while the extreme edge is 12 in.

Hence, if the stress of 7½ tons per sq. in. is not to be exceeded at the extreme edge, the average stress (measured at the centre of gravity) must be

$$7\tfrac{1}{2} \times \frac{10\tfrac{1}{2}}{12} = 6.4 \text{ tons per sq. in.}$$

Hence the resistance moment is average stress × net area × distance between flanges.

$$R = \left(7\tfrac{1}{2} \times \frac{10\tfrac{1}{2}}{12}\right) \times (37 \text{ in.}^2) \times (2 \times 10\tfrac{1}{2} \text{ in.})$$
$$= 4{,}850 \text{ inch tons.}$$

The section modulus is the resistance moment divided by the *maximum* stress (7½ tons per sq. in.).

$$Z = \left(\frac{10\tfrac{1}{2}}{12}\right) \times (37) \times (2 \times 10\tfrac{1}{2})$$
$$= 648 \text{ inch}^3 \text{ units.}$$

It will be noticed from Fig. 17 that inner faces of the joist are tapered (to facilitate rolling). This creates no special difficulty when rivets are used, as these accommodate themselves to the slope while they are "closed" hot. But bolts require a *tapered washer* to prevent the boltheads bearing on one edge only.

Reference to diagrams 10 to 14 will show that bending moments are generally greatest at midspan (or thereabouts) and die away to zero at the ends. Clearly the resistance moment may, without loss of safety, be similarly reduced, and this is easily done (and economy of material effected thereby) if the plates are stopped off as we approach the ends of the beam.

This is more fully explained by reference to Fig. 18, which shows the moment diagram of a beam with uniformly distributed load as a parabola.

We will assume that the beam shown in Fig. 17 is required to resist this moment.

The maximum moment at midspan, then, requires a net flange area of 37 sq. in., made up as follows:—

Flange of joist (net)	5½ sq. in.
Four plates (10½ × ¾ net) ...	31½ ,,
= (7⅞ sq. in. net) ...	37 ,,

We may find a scale so that the whole depth of the moment diagram gives 37 sq. in. to this scale.

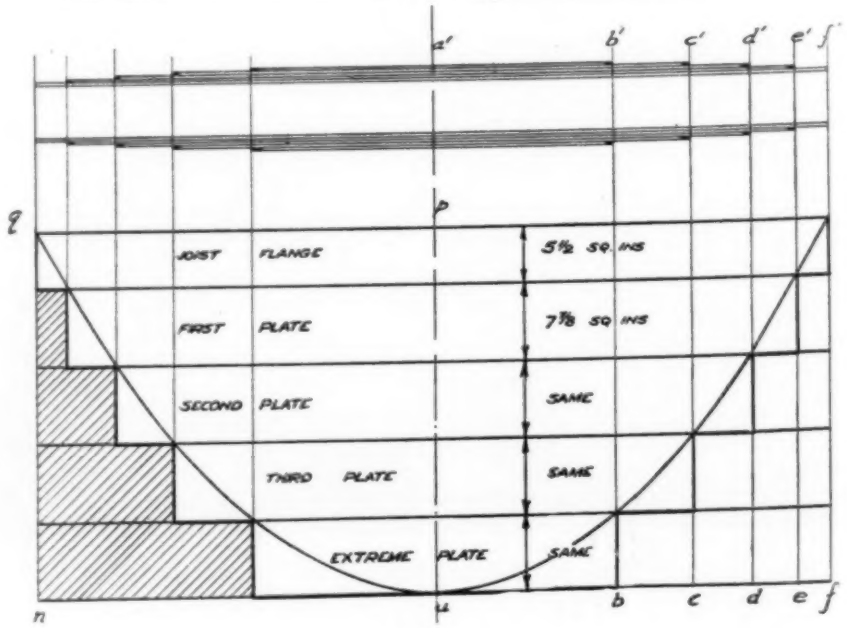


FIG. 18.

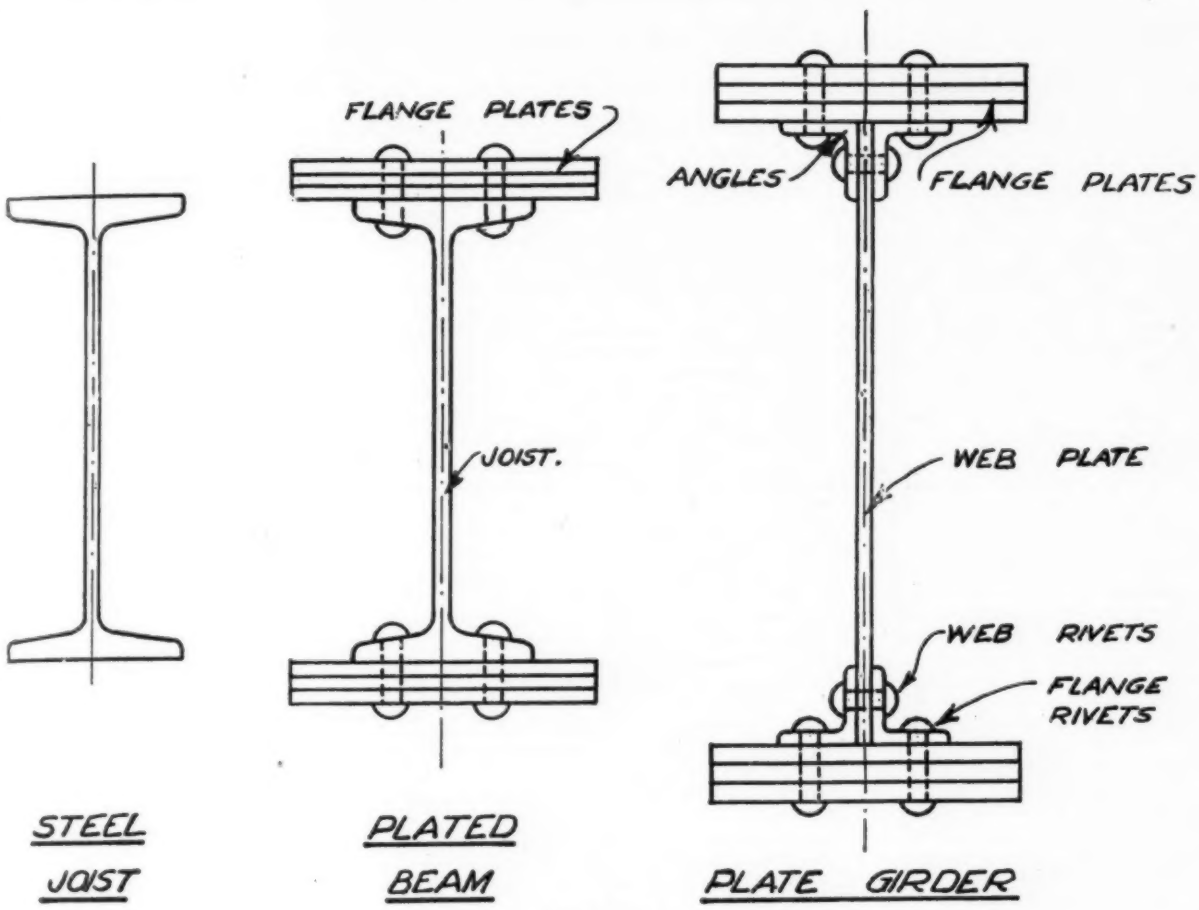


FIG. 19.

Then this distance can be sub-divided to this scale to indicate the various plates, as shown, the depth allotted to each being proportional to its sectional area.

It is clear that while the whole area is required at *a*, the moment at *b* (where the moment diagram crosses the horizontal line indicating the top of the extreme plate) has been so reduced that this plate is no longer required. Similarly the remaining plates may be stopped at *c*, *d* and *e* respectively, the joist flange alone requiring to go the whole length to *f*. The upper diagram (being a side elevation of the beam) shows how these points are used in determining the length of plates. Actually in practice we usually run the plates 3 to 6 in. beyond the points so determined, partly because the plate does not act till the first of the rivets is reached, and partly as a provision against slight variation from the ideal moment diagram.

It is clear that the shaded area represents the metal saved to the same scale, as the area *a p q r* represents the weight of half the beam.

In the extreme case of many plates and single-point loading, this saving may approach 50 per cent., and with uniform loading may approach 33⅓ per cent.

Actually in practice more usual figures are 30 and 20 per cent. respectively. Clearly this is sufficiently important.

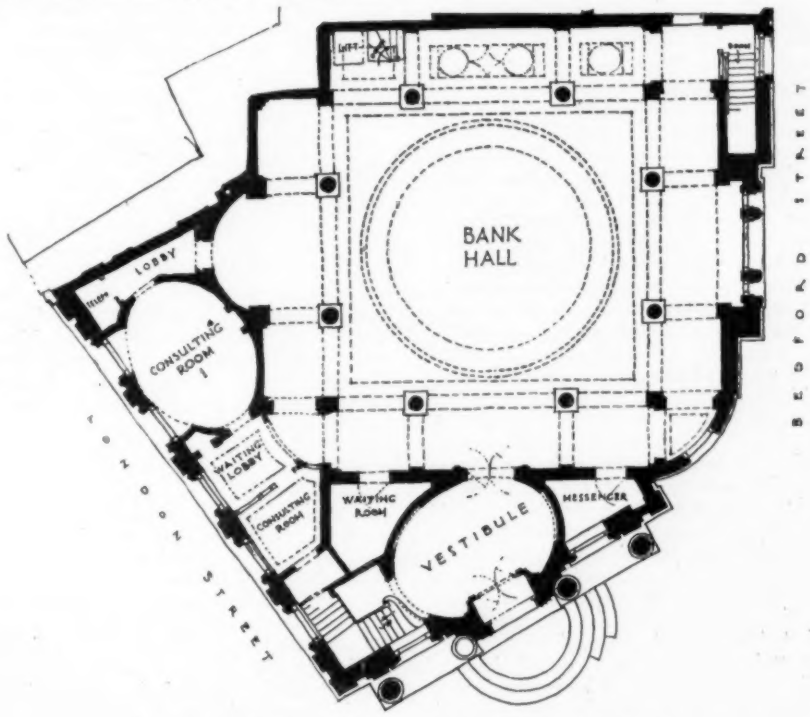
Fig. 19 shows various types of steel beams. The standard joist is always used if possible, selected so as to give the requisite resistance moment. If the largest obtainable standard joist (generally 24 in. deep) is not adequate, we may use a standard joist plated. Sometimes the appropriate steel joist is too deep. Then we may use several smaller ones side by side, or a smaller one plated. Sometimes even the largest joist plated is not strong enough. Then we may use the *plate girder*, which has a deep plate for the web and is connected to the flanges by angles. Such a girder requires web rivets as well as flange rivets for connecting to the angles in either case.

Occasionally an open steel lattice is substituted for the continuous web plate. This constitutes a *lattice girder*.

Extension of Liverpool Technical School.

The Duchess of Atholl, Parliamentary Secretary to the Board of Education, formally opened at Liverpool last week the new Fontenoy-street laboratories and workshops for building and bakery at the Central Technical School. In doing so she declared that one of the biggest tasks that faced this country to-day was the provision of houses for people of moderate means, and therefore no young man should hesitate to join the building trade.

Mr. J. Sandeman Allen, M.P., said Liverpool's scheme for training building apprentices was receiving support from all sides. Employers were not only pressing members of the trade to support the scheme, but were themselves paying the small fees charged. The trade unions also were loyally supporting them and were urging their members to take a keen interest in the work.



Plan of National Provincial Bank, Norwich.

MESSRS. F. C. PALMER, F.R.I.B.A., F.S.I., & W. F. C. HOLDEN, F.R.I.B.A., Surveyor and Assistant Surveyor to the Bank respectively.

SHEFFIELD SOUTH YORKSHIRE AND DISTRICT SOCIETY OF ARCHITECTS AND SURVEYORS

At the first general meeting this session of this Society, held on October 27, Mr. F. E. Pearce Edwards, F.R.I.B.A., President, delivered his inaugural address, in the course of which he touched on many matters of current professional interest. Having paid a tribute to the memory of the late Mr. H. L. Paterson, he proceeded to refer to the question of Registration, and said that while such legal protection and benefit as would be afforded by a Registration Act would be welcomed by all architects, the difficulties of obtaining such powers appeared to be many and various and should not be overlooked. As a premiss it might be taken for granted that Parliament would only pass an Act for the closing of the profession if practically unopposed, and if it could be clearly proved that such a course would be in the public interest and not merely in that of practitioners. One beneficial result of the great increase of membership of the Royal Institute might be that the project, long looked forward to, of a new and more appropriate central building as their headquarters in London would be realised. They hoped that when this proposal took shape a design would be forthcoming which would result in a building as expressive and beautiful as those of the Chartered Accountants, Institution of Civil Engineers, and the Auctioneers' Institute, the authors of this last having recently been awarded the R.I.B.A. medal for the best building of the year in the capital.

Turning to the question of the employment of specialists and responsibility for the payment of their fees in connection with large building projects, the President said this was one which was assuming a serious importance, urgently calling for discussion and settlement. The R.I.B.A. scale of fees recognises that the services of specialists were not included in the architect's remuneration, providing that their engagement was made with the client's concurrence. Admittedly, it might be difficult on occasion to convince a client that it would be to his advantage to pay fees twice over, as might be contended, on the cost of any portion of the work, and many architects would argue that it was their own function to calculate and design every part of the structure themselves, including complicated foundations in water or bad ground, steel-framing, r.c. construction, heating and ventilating apparatus, sanitation and sewage disposal, electric or gas lighting, installation of lifts, clocks, telephones, etc. Every practising architect should, of course, have studied and possess some knowledge of all these matters, and generally was quite competent to deal with them, but instances were bound to occur where it would be to the economic advantage of the building owner to agree to the appointment and proper remuneration of qualified specialists, to act as technical consultants in conjunction with the architect. A system of obtaining competitive quotations from specialist firms, whose prices included for execution based on their own working out of the problem, was not to be commended, as it was obvious the price must also include for services which would be more advantageously performed by the architect or by an independent adviser. The charges of the latter were agreed in advance, identical information was prepared upon which competitive prices were based, and the specialist assumed joint responsibility for the portion of the work for which he was paid. The position then arose as to whether the architect might be considered to be relieved of some part of his responsibility, and, in consequence, be expected to forego a proportion of his fees. It was, however, perfectly clear that his general responsibility for the stability and success of all parts of the work designed by him remained and was inalienable; therefore in these circumstances the agreed scale of remuneration should also remain unaffected.

Since the admirable paper contributed by Mr. Creswell during the past session, in which the various and complicated liabilities of architects incurred in the course of their practice came to some of them as a startling reminder of the nightmare risks to which they were more or less unwittingly subject, it was not surprising to learn that proposals were on foot for forming an Architects' Defence Union. The objects were entirely laudable and would, it was assumed, have the requisite number of supporters, really amounting to an insurance against legitimate risks incurred in the course of a busy practice. At the same time it was difficult to see how an architect could escape liability for the collapse of a building due to faulty design, for encroachment on adjoining property, or failing to examine the nature of the ground before making designs for a superstructure—all elementary precautions.

Another and more difficult point to be guarded against appeared to be a recent tendency to transfer responsibility for delay in the completion of a building on to the architect for alleged failure to deliver working drawings and details in the proper sequence and at the required time. This might be difficult to rebut, unless special precautions were taken, and it was rarely that the American custom of completing every detail drawing before the building was commenced could be followed in our practice with a less highly organised office system. The scale of fees payable in the United States for architects' services being considerably higher than in this country allowed for a more elaborate scheme of highly qualified assistants and specialists who could deal independently and rapidly with all essential details. But the liability point should not be lost sight of. Referring to the movement for the preservation of urban and rural scenery, the President said they were all aware of the disastrous epidemic of outdoor advertisement caused by pushful and competing proprietors, and the spoiling of many beautiful countrysides by blatant claims of petrol, paint and pills, as well as by a recrudescence of unsightly shacks on the roadside for which the present motoring habit was mainly responsible. Even in the Lake District, where we should welcome the recent movement to protect the natural amenities by a comprehensive town-planning scheme, the enormous motor and 'bus traffic had been the cause of setting up many unsightly erections in which corrugated iron and lurid pumps played a large part. He was glad to say this was being combated by several influential societies, with local representative committees, whose efforts were, however, hampered in the absence of legal powers. In the meantime we should remember a piece of useful advice recently given, and which we could very well support—"Beware the firms who spoil the face of England."

Commenting on the work of strengthening the eight piers of St. Paul's, a work which had been in progress for the last fifteen months and would not be finished for several years, the speaker said they would remember that when the evidences of subsidence and settlement became too obvious to be further ignored, many opinions were advanced and alternative methods suggested for dealing with the danger. Ultimately the recommendations of the triumvirate of eminent architects and engineer now in charge were accepted. This method—consisting of drilling the great piers and filling the loosely-built core solid, by means of cement grout—was the work now in hand and which should have the effect of consolidating the structure of the piers. As, however, the settlement was understood at the time of the investigation to be partially due to unequal compression of the subsoil owing to the great weight of the piers, it was difficult to see how the consolidation of the piers, which would presumably add considerably to their weight, would affect this fundamental condition. They trusted, however, that complete success would attend the laudable intentions of those responsible, and that this national monument might be preserved for many generations to come. At the present juncture, in sound and view of the mechanical uproar, and the seething activity of the restorers going on all around one in the crypt of the great church, the words of the epitaph above the tomb of Wren took on a new significance, and one certainly not contemplated when the placid legend was set up.

THE JOHN FLAXMAN CENTENARY

THE centenary of the death of John Flaxman falls on Tuesday, December 7, and the Committee of the University College, London, have arranged to commemorate this occasion. Mr. W. G. Constable, of the Slade School and of the National Gallery, will give a lecture on the work of John Flaxman in the evening of December 7. The College possesses a collection of the works of art produced by John Flaxman, both sculptures and drawings, most of which were presented to the College through the good offices of one of its founders, Henry Crabb Robinson.

The Flaxman Gallery and Drawings Room will be open to the general public on Wednesday afternoons from 2 to 5, during November and until December 22, beginning on Wednesday, November 10, and on Saturday mornings from 10 to 1, beginning on Saturday, November 13, until Saturday, December 18. Admission will be obtained by purchase of the Flaxman Gallery catalogue, price 6d.

Admission to Mr. Constable's lecture will be by ticket only. Those who desire to be present should apply immediately to the Publications Secretary, University College, London. Each application should be accompanied by a stamped, addressed envelope.

THE GOLDEN AGE OF GREECE

SIR BANISTER FLETCHER, V.-P.R.I.B.A., delivered a lecture on the Hellenic period of Greek architecture at the Central School of Arts and Crafts on Wednesday evening last. This, said the speaker, the "golden age" of Greek art, was rapidly developed by the Greeks from the rough work of the Mycenæan period to the work of the Periclean period on the Acropolis at Athens—the Parthenon, with its world-famous sculptures, and other monuments.

The lecturer first dealt with the varied physical and national influences which helped to mould the architecture. The sea had a unifying effect on the Greeks, who were a maritime nation which colonised by commerce and not by conquest, and this international intercourse had an influence on Greek art. The religion necessitated the building of many temples, and these are the chief buildings remaining of their work. The fineness of line and smoothness of surface were rendered possible by the beautiful marble of Mount Pentelicus, and civic spirit led to great zeal in the planning and decorating of their towns.

The lecturer also gave an account of the architectural features of the style, the massive and finely jointed walls, the graceful columns, the planning of the temples with external colonnades and small central "naos" or dwelling of the god, the carefully-designed mouldings, utilised with modifications in every age down to the present day, and the rich ornamental carving which adorned their works. Views were shown and brief descriptions given of Olympia, Delphi, Athens, Selinus and Pergamon, indicative of the spread of Greek art over Asia Minor to the eastward and south Italy and Sicily to the west. At the capital city, the victories over the Persians gave the impetus for the blaze of artistic achievement seen in the fifth century B.C.—the summit of achievement in this world-centre of the building art.

THE HOUSES OF PARLIAMENT

CONDITION OF STONEWORK AND PROPOSALS FOR RESTORATION

A "MEMORANDUM on the Defective Condition of the Stonework at the Houses of Parliament, and Proposals for its Restoration," based upon a much fuller report prepared by Sir Frank Baines, Director of Works, H.M. Office of Works, was issued last week for presentation to Parliament. It deals comprehensively with the subject under nine headings, as follows:—

1. Construction of the Building, and Choice of Anston Stone.
2. First Evidences of Decay, and Analysis of Causes.
3. Efforts to Arrest Decay: Consideration of Various Stone Preservatives.
4. Progressive Nature of Decay: Precautionary Measures Taken to Obviate Danger Risks.
5. Proposals for the Restoration of the Stonework—
   (*a*) Area to be dealt with and conditions underlying repair.
   (*b*) Extent to which details should be reproduced.
   (*c*) Repair of Statues.
   (*d*) Omission of portions of the building from the general scheme.
6. Choice of Stone for the Restoration.
7. Arrangements for Carrying Out the Restoration.
8. Estimate of Cost.
9. Summary.

We take the following excerpts from the different sections of the Memorandum:—

In 1838, four Commissioners were appointed by the Treasury to select the stone for the new building. These Commissioners, after inspecting various stone quarries, and visiting numerous public buildings, reported in March, 1839, in favour of the magnesian limestone from Bolsover Moor, chiefly on account of its uniformity of colour, its crystalline structure, and its supposed durability. Bolsover Moor stone was accordingly used at the commencement, but it was found impossible to obtain blocks of sufficient size, and the same difficulty having been experienced in connection with stone from a quarry at Mansfield Woodhouse, which was used for a time, the Commissioners finally chose a stone from Anston, in Yorkshire, although its quarry defects were well known.

When the stone was taken from the quarry, no attempt was made to mark it in order to ensure that it was placed on its natural bed in the building, and consequently stones such as mullions for windows, etc., were face bedded. During the course of recent inquiries an exhaustive examination has been made into all the known causes of stone decay, which may be either subterranean or atmospheric. An example of the effect of atmospheric impurity upon modern buildings has been observed in the Portland stone pilasters on the towers of the new Public Offices in Whitehall which were erected in 1912, *i.e.*, only 14 years ago. The rate of decay is so rapid that the softer portions of the surface have been worn away to a depth of at least one-eighth of an inch. This may possibly be due to the use of some stone from the softer beds of the quarry. The rate of decay is not usually so rapid.

A fruitful cause of damage in the case of the Houses of Parliament is the expansion caused by oxidation of the iron spindles and cross-bars which are embedded in the stonework of the pinnacles; and apart from this, the necking of the finials in many cases is too slender to contain a metal rod without risk from fracture from expansion, due to temperature only. In some cases solid masses of masonry weighing many tons have been lifted to the extent of over an inch as a result of the corrosion and expansion of the iron due to moisture finding its way into the joints, and there are many instances in which the thickness of stonework between the iron dowels or standards and the outer air is so small that moisture gains access to the iron by direct percolation through the stonework itself. The inevitable result is rusting of the iron, with consequent expansion and bursting of the stonework.

Proposals for Restoration.

The following conditions should apply to any scheme of repair:—

(1) The stone used for the repairs should harmonise as far as possible in texture and colour with the existing stone, but should be free from its defects.

(2) The general architectural design of the building should not be changed, and the Gothic detail should be preserved, subject only to such modifications in execution as are proved to be necessary.

(3) The faulty methods of construction in the original building, such as the use of iron tie-rods, standards and wedges, should be avoided.

It is essential that non-corrosive metal should be used at all points where it is in direct contact with the masonry. Where vanes are held by heraldic lions, such as at the foot of the lower slope of the angle tower in New Palace Yard, and the lions at the foot of the lower slope of the Central Tower, the standards if renewed, should be in bronze throughout, as they pass through the bodies of the heraldic beasts.

As the Houses of Parliament is a period building, it is essential in any scheme of repair to preserve the details so far as is necessary to retain the architectural character of the building; but some modification may well prove necessary in view of the difficulty of carving in a hard stone, and also of the necessity for keeping the cost within reasonable limits. It should be possible, for instance, where repair of detail has to be undertaken, to omit what may perhaps be regarded as unessential features, such as the extreme elaboration of carving in parts of the building not visible from the ground. Much of the detail, such as the crowns standing on the small free shafts or pillars rising above the parapets on many of the façades of the building, is so attenuated by cutting away as to be quite unfit and dangerous when executed in stone, particularly in the acid-polluted atmosphere of a modern city. Out of hundreds of these crowns in the original stone all except five have perished, and have been reproduced in cast iron. Another example of unjustifiable freedom in carving is the open-work royal semi-crowns of various sizes in all parts of the building. Some of these semi-crowns high up on the Victoria Tower are 3 ft. in diameter and project 18 in. in free cut-work. Many have been removed in the process of "hand-picking," and those which remain are a constant source of danger. In the work of repair the external form of the semi-crowns can be preserved, but, instead of cutting away freely the whole of the interior, they can be carved with an infilling to represent velvet, giving them a solid bedding into the facework, and losing little, if any, of the architectural effect, while meeting the requisite conditions of strength, permanence and economy.

The great numbers of niches for statuary, with their elaborately carved canopies, afford an excellent illustration of over-elaboration of detail. Some modification of the detail, it is suggested, would simplify and cheapen execution, and render the work more permanent, without any appreciable loss of effect. It is doubtful also whether the numerous slender detached shafts should be reproduced in a scheme of repair. It is suggested that statues should be repaired where necessary, but no attempt should be made to replace them by carved replicas.

Selection of Stone for Repairs.

In connection with the selection of a suitable material for the repairs, the following groups of materials have been considered:—(*a*) Natural stones, (*b*) artificial stones, (*c*) modern terra-cotta; and in the course of the investigation into their relative merits, expert advice has been obtained from Mr. J. Allen Howe, the Assistant Director of the Geological Survey, and Sir Robert Robertson, the Chief Government Chemist. The factors that have to be considered when making a selection of stone are:—(1) Colour, (2) texture, (3) durability, (4) adaptability to Gothic detail, and (5) the possibility of obtaining supplies.

Stancliffe stone is recommended for the repairs, and in this recommendation both Mr. Howe and Sir Robert Robertson concur. The Department of Scientific and Industrial Research have also been consulted on the question of the durability of the stone, and have expressed their concurrence in the selection. The quarry from which it is taken is in no danger of exhaustion, and steps would be taken to ensure adequate and regular supplies. Arrangements would be made at the quarry for careful selection of blocks, and in order to minimise the risk of flaws and faults, and to economise in carriage, the blocks would be rough-shaped at the quarry, the finished work being carried out in the immediate vicinity of the Houses of Parliament. Chilmark stone is recommended for the repair of the Cloister Court.

Estimate of Cost.

The estimated cost of carrying out the restoration is £1,062,350, made up as follows:—

Scaffolding, tackle, unloading machinery, plant, electric hoists, to towers and the establishment of the necessary workshops	£23,000
Repair of the façades and parapets on the assumption that 25 per cent. of the decorative work will require renewal and that the parapets will have to be entirely dismantled. Stone found to be structurally sound will be re-used	171,000
Renewal of turrets to the level of the parapets	162,500
Repair of turrets which do not require complete renewal	12,000
Renewal of small stone shafts rising above the parapets	7,000
Replacing with non-corrosive metal, the iron details of the above shafts and the iron bannerets to the turrets over the House of Lords entrance	900
Replacing externally with new stone 115 windows on the Terrace front	17,250
Dealing similarly with windows on other fronts	34,000
Repair of stonework on the Clock Tower (215 ft.)	76,150
Repair of stonework on the Victoria Tower (330 ft.)	135,950
Repair of stonework on the Central Tower (250 ft.)	36,400
Repair of ashlar work, etc., on the façades of internal courts	167,500
Repairing Caen stone façades to the Cloister Court	45,000
Repair of open archways, etc.	21,250
Repair of 245 statues	10,000
Overhead charges, including contingencies	142,450
Total	£1,062,350

The actual cost of the erection of the Houses of Parliament was over £2,000,000, or 1s. 8d. per foot cube. At present day prices, and using Stancliffe stone, instead of Anston, the cost would probably be well over £12,000,000, or 9s. per foot cube, the approximate cubic contents of the building being 22,500,000 cubic feet. It will be seen, therefore, that the estimated cost of the repairs represents roughly 8 per cent. of the present day cost of erection, or ½ per cent. per annum spread over 15 years, the time estimated as necessary for the completion of the work.

[We give in this issue a number of illustrations from the Memorandum by permission of H.M. Office of Works.]

SPECIFICATIONS.—XLIII

By H. V. MILNES EMERSON, A.R.I.B.A.

HEATING ENGINEERS (*Continued*).

DRAUGHTS can be created by incoming currents of cold air, by the movement of air inside the room, by the sudden cooling of the air in the immediate neighbourhood coming in contact with a large cold surface, called condensation draught, and a hot surface causing the air in the immediate neighbourhood to rise, producing an induced draught. The position of inlets should be so arranged that they are a few feet away from the nearest occupant. The velocity of air will thus be considerably decreased in its progress from the inlet to the nearest occupant due to its spreading on entering the room. The velocity of air through an inlet placed 8 ft. or more above the floor level can be at the rate of 6 to 7 ft. per minute, although much depends upon the temperature of the air currents entering the room or building, but as a general rule the velocity of air entering a room should not exceed 5 ft. per second if draughts are to be avoided.

The area of the inlets depend upon the volume of air required in a given time and the velocity of same as follows:—

$$\text{Area} = \frac{\text{Volume in cubic feet.}}{\text{Velocity in feet.}}$$

Assuming the inlet is to discharge 500 cubic feet of air per minute at a velocity of 6 ft. per second the net area of the inlet required (exclusive of the metal forming the grating) would be—

$$\frac{500}{6 \times 60} = 1.39 \text{ square feet} = 200 \text{ square inches.}$$

DUST.—Floating dust may be partly removed by ventilation, but an air velocity of less than 5 ft. per second is ineffective for this purpose.

NATURAL VENTILATION.—The natural system is usually applied by the installation of vertical flues in the room to be ventilated. The movement of air is effected by purely natural forces, created by the difference in weight or density of two or more columns of air corresponding to the variation in their temperatures which induce air currents through the room. The weight of air per cubic foot decreases with the rise in temperature, whilst its bulk increases 1-460 part for every degree rise in temperature. The reduced density of the warm air in the extract flue causes it to rise through the colder air, and thus to draw a stream of fresh air in the building. The extracting power of the flue is also increased by means of cowls or ventilators accelerated by the dynamic effect of wind, thus producing a slight suction, but they are essentially uncertain in operation. The exhausting effect of the extract flues decreases as the temperature of the outer air approaches that of the internal air. In summer, when the temperature of the outer air exceeds that of the internal air, its functions cease, and the tendency of the air motion is in the opposite direction. This is, however, counterbalanced by it being possible to open the windows and increasing the rate of air charge.

Air may be brought into a room through a drawer inlet, which can be opened and closed at will, the hit-and-miss type as used behind radiators, or the fixed type commonly used in bedrooms without a fireplace. An air inlet with an area of 50 to 60 square inches will allow sufficient air to pass through for the requirements of two persons. Air may also be brought in between the meeting rails of a sash window, a deep bead being provided on the wood cill so that the lower sash may be raised to that height without creating a draught at cill level. An ordinary fitting window will allow 5 to 8 cubic feet of air to pass into the room per minute.

Fanlights over doors and windows may be used either as air inlets and outlets, and an ordinary fire grate will provide an outlet for about 8,000 to 10,000 cubic ft. per hour, sufficient for three to five persons.

Air inlets should be low down and air outlets high up and in opposite positions. The air inlets should, generally, have an area of some 25 per cent. in excess of the outlets, otherwise there is a risk of the air movement being reversed and the outlets acting as inlets and *vice versa*.

Generally, the provision of an air supply is hardly practical by the foregoing means in comparatively crowded rooms, offices, &c., and if the nature of the building is such as to call for a definite air supply per person, a mechanical system must be employed.

Mechanical ventilation is essential to all crowded rooms, schools, theatres, cinemas, hotels, and factories and workrooms with low ceilings. The system employed can be either the vacuum or plenum. In the vacuum system the air is drawn out of the room or building by means of tubes and ducts leading to the exhauster fitted with a fan and worked by electricity or other power available. The action of the fan produces a slight vacuum which extracts the air from the room and tends to draw fresh air from all available sources. It commonly produces a result which is fresher and more comfortable to the occupants than the plenum system, but it does not offer any facilities for cleansing the air coming into the room.

In the plenum system the air is driven into the building by means of fans or blowers, and the air is allowed to find its way out, either through purpose-made openings, or through the non air-tight parts of window and door openings, &c.

For merely creating a movement of air, in offices and such like, the fixed or portable electric fan is generally employed; but in larger installations the fans or blowers are driven by electric or other available power and discharge the air into the rooms, &c., by means of ducts. The advantage of this system is that the air can be taken at one point and can be filtered and cleansed of all or most of its suspended and gaseous impurities, and can be introduced into the rooms at a high or low temperature if required. Generally, the plenum system produces an interior pressure in excess of the exterior pressure, and, therefore, tends to exclude cold draughts or currents through the apertures in window frames, &c. The supply of fresh air for ventilation can be cleansed by dry or wet filtration, or by air washers. In the dry method, the air is forced through finely woven dry filter cloths, which mechanically extract the grosser suspended impurities. In the wet method the air is passed through wet fabrics of horse-hair, &c., which will not rot, or through wet layers of broken coke; but they soon become choked with impurities and cannot be readily cleansed.

The most satisfactory method of cleansing the air is by passing it through a fine mist or spray of water ejected through small diameter nozzles at high velocity, which has the effect of thoroughly wetting all particles, which are then removed from the air when passing through a properly designed series of baffle or eliminator plates.

From the foregoing particulars the necessary flues and inlets can be specified for natural ventilation. For mechanical ventilation, the apparatus can be specified after consultation with a ventilating engineer.

ELECTRIC LIFTS.

The larger and higher the building the more important does the question of lift equipment become, and an analysis as to number, size and speed of lifts required should be obtained. At least one of the leading lift companies makes a special feature of this service, which will be given without committing the architect in any way.

Lifts may be divided into three classes—(1) Passenger; (2) goods; (3) service or dinner lifts, and differ principally in the forms of control used. Passenger lifts in hotels, office buildings, &c., are generally operated by means of a car switch, the lift attendant starting and stopping car as required. Automatic push button operation is generally used in private houses, small hotels and small office buildings, the passengers operating car by means of a series of buttons corresponding with the number of floors.

In many instances a combination of the above systems driven by a lift attendant is desirable. It is called dual control, the car being operated during the day or busy periods by car switch and when the slack periods arrives the control is changed to automatic push button, thus relieving the attendant for other duties, or rendering a relief attendant unnecessary. This system enables the maximum service to be obtained from each lift, as the speeds can also be changed enabling a high speed to be used for car switch and a lower speed for push button.

Goods Lifts vary but little in design from other lifts except that speeds are generally much slower and the cars are more simple in design. The systems of control can be the same as for passenger lifts, but car switch operation is more generally used. If auto. control is desired a cheaper form of push button operation is available called "Up, Down, and Stop." These buttons are fixed on each floor, and in car if desired, which operates the lift as marked; thus pressure of the Up button will start lift in the up direction, and it will continue to run until the Stop button has been pressed, or until it has been brought to a halt by the limit switches which are invariably fixed at top and bottom of wellhole.

Service or dinner lifts are generally of light duty, with small cars which are not fitted with safety devices, it being felt that as no passengers are carried the expense of this apparatus is not justified.

Many forms of automatic control are available according to the particular needs of each contract, including the Up, Down and Stop previously described, but perhaps the most popular control for lifts travelling several floors is a series of buttons on the despatching floor by which the lift is sent to its destination, and when emptied the car is returned to the despatching floor by pressure of a button on any floor.

The winding gears vary somewhat in design, but the three principal methods are:—(*a*) Drum drive; (*b*) traction drive with secondary sheave; (*c*) "V" sheave drive.

With the drum drive all ropes are securely fastened to the drum, one set lead to the car and another to the balance weight, so arranged that as the car ropes wind on drum, so raising car, the balance weight ropes are unwound, thus lowering the balance weight. This type of lift was much favoured in the early days of electric lifts and gave very good service, but the drum necessarily had to be varied to suit the extent of travel, &c., and therefore the question of manufacturing presented several difficulties. The development of the "V" sheave enabled standardisation to be introduced, and moreover the machine was more compact, lighter in weight and more elastic in application.

The traction drive, sometimes called double wrap, is used principally for the high speed machine of the gearless type which is, however, but little used in this country, and only advisable for special installations where first cost is not of primary importance. The "V" sheave drive is the one most generally in use, and as it meets the requirements of almost every installation it is proposed to deal with this only at length.

In this system the driving sheave is turned with V-shaped grooves in which the ropes are pulled down by the weight of car and balance weight so obtaining a grip on sides of groove and securing the necessary tractive effort to raise or lower same. The ropes, usually four in number, pass over the sheave, the car being suspended at one end and the balance weight at the other; this automatically furnishes an important safety feature, as it is impossible for either car or balance weight to be "overwound," the ropes being of such length that if the car or weight touches bottom the tractive effort of rope on driving sheave is lessened, *i.e.*, rope loses its hold on groove, so enabling same to turn freely without moving load.

(*To be continued*)

ARCHITECTS' & BUILDERS' INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

May we appeal to our correspondents to submit their queries on paper of a size easily filed, and written as legibly as possible, or, better still, in typewriting?—ED.

Heating System.

SIR,—In an existing heating system in which there is a very long run of pipes with very little rise and where at present the farthest radiators get barely warm on the coldest days, it has been suggested that a bigger boiler sunk in a pit would correct the fault. Though it is a difficult matter to advise on such scanty information, I should be grateful to learn whether, although the runs of pipe still remain with little rise, the sinking of the boiler is likely to improve the circulation.

AMATEUR.

Establishment Charges.

[REPLY TO "DOUBTFUL," OCTOBER 22.]

SIR,—Establishment charges are those overhead costs which it is impossible to allocate to various works administered in any other way than by a percentage arrived at by agreement, or by previous experience in running expenses. Insurances of workmen are definite out-of-pocket expenses that can be clearly allocated to the job concerned, just as easily as payments of wages, and such items should therefore be shown and charged separately, unless the contract has been arranged so as to cover such payments.

P. C.

Damp Concrete Block Walls.

SIR,—I should be glad if any of your readers could assist me in the following matter. I am architect for a housing scheme in which the walls of the houses have been built of cement concrete blocks (semi-dry process) in two thicknesses, the outer face 4½ in. thick, of sand and cement 5 to 1, and the inner face 4½ in. thick, of breeze concrete, plastered inside. The outer and inner faces have a 2½ in. space between, and are connected by twisted galvanised iron ties.

The site is close to the sea coast, and is exceptionally exposed to gales and driving rain. When these occur, especially from the S.E., I am having trouble with wet getting into the houses through the walls, and showing on the plaster, more especially about window sills and lintels. The walls have been well and closely pointed with cement, and I have come to the conclusion that the wet is not coming in through the joints, but is being driven through the outer concrete blocks, and conveyed to the inner breeze wall where the two thicknesses of the wall are connected by window frames, &c. On opening up the outer face of the wall I find that the outer concrete blocks are practically saturated with wet, while the inner blocks are for the most part dry, except in the neighbourhood of windows and doors.

I should be glad to know whether any of your readers have had a similar experience, and, if so, what steps were taken to counteract the trouble, and whether these were successful.

CONCRETE BLOCKS.

Span of Tiled Roof.

SIR,—What is the largest safe span for a tiled roof at an angle of 40 deg., avoiding principals and purlins by using only rafters and a collar to each pair? Please state size of rafters.

G. E. W.

Sand Lime Bricks.

[REPLY TO "B," OCTOBER 22.]

SIR,—I know of a factory which is built entirely of bricks of this kind. The outside walls are only 4½ in. thick and were built seven or eight years ago. These carry a considerable quantity of shafting, and up to the present show no sign of defects from weather or any other cause.

WILLIAM F. JOHNSON.

Responsibility for R.W.P.

[REPLY TO "E. W.," NOVEMBER 12.]

The right to discharge rainwater by means of the eaves gutter from the house "B" along the house "A" and down the rainwater pipe dividing the houses "A" and "A," as described by "E. W.," is the subject matter of an easement to which the owner of "B" is entitled by implied grant, and which will be recognised by the Court. But, in law, in the circumstances, there is no obligation on "B's" part to repair the rainwater pipe, though he has the right as dominant owner, and for the maintenance of his enjoyment of the easement, to enter the land of "A," the servient owner, in order to execute repairs thereto if he wishes. Nor is the servient owner under any obligation to do repairs necessary to ensure the enjoyment or convenient enjoyment of the easement by "B."

It follows that "A" cannot call on "B" to repair the rainwater pipe at all, or to contribute one-third of the cost as suggested. The matter is one for amicable and equitable arrangement between the parties themselves.

LEGAL.

Fall of Drain.

[REPLY TO MR. C. A. BARBER, NOVEMBER 5.]

SIR,—With reference to the fall of the main drain, I assume that this drain will ultimately be taken over by the District Council and regarded as a branch sewer, and the advice of their sanitary expert will be given when plans are formally submitted before commencing work. Nevertheless, a greater fall is desirable, and if this cannot be obtained the whole length should be laid with 6 in. diameter heavy iron drain pipes, and sufficient ventilation and means of access provided.

MEMBER OF A.A.S.T.A.

Pile Driving.

SIR,—While examining the relative differences in formulæ given by various authorities on pile-driving data recently, it came to my notice that some engineers vary the factor for penetration or "set" dependent upon the way the pile is driven by a drop hammer or steam hammer, *e.g.*, one formula is stated to be $L = \frac{12WH}{D + 0.1}$, when L = ultimate load in tons; W = weight of hammer in tons; H = fall of hammer in feet; and D = penetration average for last few blows in inches when a steam hammer is used.

Another formula is $L = \frac{12WH}{D + 1.0}$, where the hammer is an ordinary drop or monkey.

I am anxious to ascertain what theory is involved in this, as I presume the only difference between the use of a steam hammer and a drop hammer is when using steam the successive blows are delivered much more rapidly than when using the windlass type. Is there any difference in the ultimate effect?

MONKEY.

Sash Window Construction.

SIR,—I have frequently found that partly for the sake of proportion and partly to raise the level of the meeting rails above eye level, it is desirable to divide the panes of a sash window into five panes vertically. This arrangement has the disadvantage of permitting the window to open only two-fifths of its height. Is there any practical contrivance to meet this objection?

PROPORTION.

Handbook on Handrailing.

SIR,—Is there any standard work devoted only to the science of handrailing? If so, I should be glad to be put in touch with the name of the work, its author, and publisher. I find most of the information given in text books on general joinery to be incomplete upon this intricate matter.

STUDENT.

Daywork Rates.

SIR,—In the event of an architect permitting certain variation work on a contract to be put in hand upon daywork rates but without coming to an understanding as to what these rates shall be, would the rates laid down by the local Federation of Master Builders be the standard to be accepted, or in what way would they be assessed?

NOVICE.

THE WEEK IN PARLIAMENT

WESTMINSTER, *Wednesday.*

Lead Paint Bill.

THE Lead Paint (Protection Against Poisoning) Bill has been read a second time in the House of Lords.

House Building Progress.

Mr. Chamberlain informed Mr. Bennett that the following table showed the approximate numbers of houses completed since the war in England, Scotland, and Wales:—

NUMBERS OF HOUSES ERECTED.

	State Assistance. With.	Without.	Total.
England (excluding Monmouth)..	440,053	272,500*	712,553
Scotland ..	45,019	8,702†	53,721
Wales (including Monmouth) ..	26,818	15,700*	42,518
	511,890	296,902	808,792

*These figures were only approximate. Returns were not obtained before October, 1922, and the numbers of houses included as erected prior to that date were based on estimates.

†In Scotland, returns were obtained yearly, and figures were not yet available as to the numbers of houses erected since December, 1925, without State assistance between that date and October 1, 1926.

Sir K. Wood informed Mr. T. Thomson that the number of houses authorised for erection under the various Housing Acts (including houses completed and under construction), was 706,699 as compared with 543,284 a year ago. Up to October 1, the latest date for which figures are available, the numbers of houses which had been completed in England and Wales with State assistance under the various Housing Acts were 270,406 by local authorities, and 196,465 by private enterprise. The numbers under construction under the Housing Acts on October 1 were 58,294 and 45,217 respectively.

Sir K. Wood informed Mr. H. Williams that the numbers of houses erected with State assistance during the six months ended September 30 were, in 1926, 36,732 by local authorities, and 38,631 by private enterprise; in 1925, 19,548 by local authorities and 30,907 by private enterprise; and in 1924, 8,082 by local authorities and 17,751 by private enterprise.

Loans for Slum Clearance Schemes.

Sir K. Wood informed Mr. C. Wilson that since the war loans amounting to £2,023,435 had been sanctioned by the Minister of Health in connection with slum clearance schemes—£389,367 in connection with the acquisition of property and £1,634,068 for rehousing. In addition the London County Council had expended £236,546 for the acquisition of slum property and £608,554 for rehousing and had sanctioned loans to Metropolitan Borough Councils amounting to £42,956 and £24,181 for such purposes respectively. In total those sums represented an expenditure of £2,935,671 on slum clearance.

St. James's Park Lake.

Mr. Campbell asked whether the First Commissioner of Works had received any offer to substitute a stone bridge for the suspension bridge over St. James's Park lake.

Captain Hacking said that an offer of a free gift of a stone bridge had been made, but the proposal was at present in abeyance. Should it be revived, the House would be placed in full possession of the facts before any decision was reached.

Weir Houses Constructed.

Sir John Gilmour, Secretary for Scotland, informed Mr. Stephen that on October 31, 1926, the number of Weir houses erected in Scotland, with the assistance of State funds, was 854, and the number occupied was 484. The average inclusive cost per house in completed contracts was £440, and the rents varied from £14 to £34 per annum, according to the type of house, the locality of erection, and the nature of the particular scheme.

THE BUILDING TRADE

BUILDING CONTRACTS

By W. T. CRESWELL, Barrister-at-Law; L.R.I.B.A.; Associate (late Fellow) Surveyors' Institution; author of "The Law Relating to Building and Building Contracts."

RETENTION MONIES.—III.

In preceding articles attention has been drawn to the difficulties which are met with by contractors in the collection of retention monies when reasonably due under the terms of the usual building contract; and some suggestions have been made as to how, by foreseeing such possibilities before the contract is entered into, or at an early stage during the execution of the work, these difficulties may be avoided.

Delay in Giving the Final Certificate.

If, as previously pointed out, it is a condition precedent to any payments that the contractor shall have received the architect's corresponding certificate, and the architect delays to give the final certificate whilst raising questions about defects with work alleged to have arisen during the maintenance period, or claims as to delay in the progress of the work, then pending settlement and adjustment the effect must invariably be considerable loss to the contractor in consequence of long delayed payment of retention monies. Especially is this so if the architect chiefly considers the interests of his employer, and fails to observe that attitude of a *quasi* arbitrator between the employer and the contractor which, in law, and by the traditions of his profession he is bound to do.

The Architect as Certifier.

When the contract provides that the work is to be done to the satisfaction of the architect it does not thereby delegate to him the functions of an arbitrator, but those of a skilled agent of the employer. Impliedly he accepts a duty to the contractor as well as to the employer, and is bound to act impartially towards both parties in certifying; otherwise, if he withholds from the contractor what the latter is entitled to under the contract, collusion with the employer may be alleged against him, and if proved the contractor can then recover payment and damages from the employer without the architect's certificate, and further the employer cannot take advantage of the architect's misconduct as an excuse for non-payment. Once the architect's conduct can be proved to amount to collusion, any determination of his in respect to the final certificate is void. Further, the Court may decide that the architect has been also guilty of fraud, even if fraud was not alleged in the plea. (See Kellett *v.* New Mills U.D.C., 1900, 2 H.B.C. 330.)

If, in any instance, the contractor or the employer shall allege against the architect any misdemeanour which, if proved, would disqualify him as certifier under the contract and for the work undertaken by the contract, but should thereafter continue to recognise him as certifier or accept his decisions as architect, then the architect's actions are held to have been condoned, the objection to have been waived, and he himself to have been re-established as architect.

The Architect not an Arbitrator.

In general, an architect under the ordinary building contract is not in the position of an arbitrator, but in that of a *quasi* arbitrator. But if the contract expressly determines that his decision is to be finally accepted by the parties, his position is similar to that of an arbitrator, in that he must judge, and act impartially, between the parties. He must give equal opportunities to both parties to advance their respective claims and deal equitably with both. Any opportunity he gives to one to state his case he must give to the other also. He becomes disqualified to give a certificate, even if his conduct is "not of that discreet, impartial and fair description which it ought to have been (without imputing fraud)." (See Pawley *v.* Turnbull, 1861, 3 Giff., 70.)

Allowance may be made for any personal or private interests of the architect which were fully disclosed to, or impliedly known by, the parties before the signing of the contract. (See Chambers *v.* Goldthorpe, 1901, 1 Q.B. 624.)

If, therefore, an architect, in any particular instance, refuses to certify, or states that he would be willing to certify if the employer relieves him from any responsibility, a jury may find from his actions and his conduct that the work has been completed so as justly to demand the architect's satisfaction, and the contractor may then recover from the employer.

The failure to show a judicial and impartial attitude of mind on the part of the architect or certifier will disqualify him quite apart from the question whether fraud or collusion can be proved; and if any certificate has been issued by him under such conditions, it will not be binding and may be dispensed with. (See Roberts *v.* Hickman, 1913, A.C. 229 H.L.)

The Contractor's Obligation.

The contractor must do all he has undertaken to do by the contract in order to obtain a corresponding certificate, but the necessity for a certificate is dispensed with if prevention of any condition of the contract on the part of the employer can be shown. Further, as already stated, interference with the conscience of the architect by the employer, even though it does not amount to collusion, may constitute "prevention" by the employer. (See Brunsdon *v.* Beresford, 1883, 1 Cab & Ellis, 125.)

Generally.

In all these cases, the contractor has a remedy against the employer, unless the employer expressly dissociates himself from any attempt on the part of the architect to prevent the contractor obtaining what he is entitled to under the contract; or from any unfair conduct or, indeed, any conduct on the part of the architect, such as would disqualify an arbitrator, even though it be not definitely fraudulent conduct. In such circumstances, the need for a certificate as a condition precedent to payment may be dispensed with, or if an unjust certificate is given it may be voided as set out in the cases already referred to.

Although it is hoped that in these articles some indication has been given of the position created by the law as it stands to-day in respect to the payment of retention monies, it is again emphasized that most, if not all, the problems can be avoided by a reasonable use of a properly drawn up contract carefully designed to meet the desires of all parties; and that there may be set up an excellent safeguard and security by a provision that interest be paid to the contractor for retention monies from the time they become due, but are for any reason not paid to him, and that in this and in all matters involving dispute arbitration should ensue without delay.

Irish Free State Town-Planning.

A scheme put forward by the Greater Dublin Commission proposes to enlarge the city area so as to extend it from Killiney to Malahide, while the Mansion House, the scene of so many political, social, and philanthropic gatherings, is suggested as a suitable place for a City Art Gallery and Museum. Town planning and the clearance of slum areas are other parts of the report, and it is proposed to set up a Town-Planning Board.

TRADE DISPUTES AND POOR RELIEF

Sir Robert Horne in a recent speech raised a point that has been present to our mind for some time past in connection with the poor relief afforded to the wives and families of the miners during the coal stoppage. In the first place we notice that, as reported, he first alludes to the difficulty in the coal industry as a "dispute," but then goes on to say that "during the stoppage the country out of public moneys has supported the families of the *strikers* to an extent that has never been known in this country and has never been attempted in any other country." This allusion to the miners as "the strikers" appears to us to be hardly accurate, as in this dispute the terms "strike" and "lock-out" have been hardly applicable, though they have been applied in turn to both the miners and the owners. A grave crisis having occurred in the coal industry, the agreements with the men were terminated as from a particular date and fresh terms were offered. The men ceased work under the old agreements when they terminated and did not accept the new terms offered, and in these circumstances the essential elements of either a "strike" or a "lock-out" are wanting. The men were not refusing to work under an existing agreement, nor were the employers closing their works and refusing to employ the men; thus work ceased on a genuine dispute as to the terms of employment.

We make these observations prefatory to what we desire to call attention, because it is the exceptional circumstances of this dispute which may have occasioned the granting of relief which Sir Robert Horne says is unprecedented. Nevertheless, the figures he gave us as to the incidence of the increase in the poor rate on industry, more or less due to this cause, are very suggestive. He stated that, comparing the period before the stoppage with that since the stoppage, the rates in the first period represented 4d. in the ton of steel made at certain works, whilst now it amounted to 1s. 4d.

The stoppage in the coal trade has been unprecedented in gravity and duration, and we must hope it will remain unprecedented also in the matter of outdoor relief, but it raises a serious question as to the principles on which relief should be administered in trade disputes.

There can be no question but that the payment of outdoor relief tends to prolong disputes, but the granting of this form of assistance is based upon a chivalrous feeling that both sides to a dispute should be placed in a position of equality, and that a settlement should not be forced upon the men for sheer lack of means to maintain their families. On the other hand, it is often forgotten that under such conditions a dispute may be prolonged at the cost of other workers, themselves indirectly affected by the dispute, and as the above figures show, to the detriment of other industries. Thus the payment of outdoor relief to the parties to a dispute forms another of those vicious circles in which we live that handicap any return to commercial prosperity.

It is a very serious question what should be done in the future as regards outdoor relief in disputes, and especially in strikes. If in a real strike the men can always rely upon relief being given to their families, it appears that in this respect trade unions will be placed in another privileged position. The ordinary man in, or seeking, employment has to consider his responsibilities to his family and they affect the terms for his services that he is prepared to accept, and nothing is heard of his having "been compelled to accept work by starvation." The necessity of living and maintaining the family is a form of compulsion which presses upon everybody. A dispute in a basic industry always affects the ratepayers too; they suffer severe inconveniences and depriva-

tions and yet are called upon to contribute funds which must prolong the dispute.

The present dispute has been marked by obstinacy on both sides, and the public has simply been holding the ring except that they have been contributing funds to one side, a contribution not even acknowledged by that side in their appeals to foreign countries. The money thus expended has benefited no one, for it is clear that no better terms can be arranged after nearly seven months of strife than could have been obtained at the commencement of the stoppage, or even nine months earlier, when the industry was subsidised in order to enable the parties to arrange the industry on an economic basis. Indeed, the whole country as well as the particular industry is in a far worse condition than if no stoppage had occurred.

We can offer no suggestions as to how this question of outdoor relief can be dealt with, but it is obvious that a new and very serious problem has to be solved, and that, with the recurring frequency of trade disputes, an ill-considered payment of relief may involve not only the ratepayers in bankruptcy but the whole country. "Labour" is making a strong bid to capture local government and may control the payment of relief, and it is possible that in trade disputes the ratepayers may find themselves subsidising trade unions in a dispute engineered by the unions, even for political purposes, with which the majority of the ratepayers are out of sympathy. Moreover, a dispute in a basic industry is of national concern and the country may become divided into sections, certain districts subsidising a dispute which even threatens the constitution.

A LIGHT CASE

SOME points of interest appear to have been raised in the recent case, Foster *v.* Lyons & Co., at present only briefly reported in *Weekly Notes*, November 13. It was a motion by the lessees and occupiers of certain premises in Birmingham holding under a lease for a term of 99 years from September, 1899, seeking by injunction to restrain the defendants, who also derived title from the same lessor, from obstructing the access of light to their premises.

The plaintiff's premises were divided from the land upon which it was proposed to erect the new building by a passage 10 ft. in width, and the proposed building was to be 62 ft. in height, and it was admitted that it would interfere materially with the access of light that the plaintiff had enjoyed uninterruptedly for a period of twenty years before action brought, but the defence was that the plaintiff's access of light was enjoyed only "by some consent or agreement expressly made or given for that purpose" within the meaning of section 3 of the Prescription Act, 1832. The agreement relied upon was contained in a lease dated June, 1901, whereby the lessor granted to the predecessor of the plaintiff the said messuage and premises and also a right of way in common with his other lessees over the passage, "reserving, nevertheless, unto the lessor, his lessees and tenants full right to build to any height upon the land adjoining the land hereby demised, notwithstanding such buildings may obstruct any light on the land hereby demised." From the short report at present available we are unable to explain the apparent discrepancy between the date of the deed here recited and the date from which the plaintiff's lease was said to run.

Two points were raised upon the motion: (1) Whether the land on the further side of the passage was land "adjoining" the land leased to the plaintiff; and (2) whether the reservation contained in the lease was "a consent or agreement in writing" within section 3 of the Prescription Act? On the first point the Court held that the word "adjoining," given a reasonable meaning, must relate to the land of the lessor in question. The parties must have realised that all the land round the demised premises belonged to the lessor. We may here note that in Haynes *v.* King (1893, 3 Ch. 439), a case cited on the second point but not on this first point, a covenant very similar to the above, but containing the words "adjoining or contiguous" were held to apply to premises divided by a street.

On the second point the Court put the point to be decided thus:—The question was whether the words in the reservation contained in the lease operated as an agreement within section 3 of the Prescription Act, 1832, or were only meant to negative the implied right which the lessee would otherwise have had of insisting that the lessor should not derogate from his own grant by building on the adjoining land; in other words, did the case fall within Haynes *v.* King (*ubi sup.*) or Mitchell *v.* Cantrill (1887, 37 Ch. Div. 56)? The Court held that the case was governed by Haynes *v.* King.

In the third article of the series we recently published on the Law relating to Light we referred to those two cases and set out the terms of the reservations contained in the respective covenants (see *The Builder*, May 22, 1925). In Haynes *v.* King the reservation was much in the same terms as the case we are considering: "The lessors shall have power without obtaining any consent from, or making any compensation to, the lessee, to deal as they may think fit with any of the premises adjoining or contiguous to the tenement hereby demised, and to erect, or suffer to be erected, any building whatsoever, whether such buildings shall or shall not affect or diminish the light or air which may now or at any time during the term hereby granted be enjoyed by the lessee or the tenants or occupiers of the hereditaments hereby demised"; and it was held in that case that the effect of that declaration was as if there had been an express proviso in the contract between the parties that, notwithstanding the grant to the plaintiff, the landlord should be at liberty to build so as to interfere with the plaintiff's right to light; that is to say, the grant of the house, if there was nothing to modify it, would pass the right to enjoy all the light coming to the windows, and eventually by prescription an absolute right would be acquired, but under the reservation it was modified so that the right only existed until the lessors exercised the right contained in the reservation. The right, therefore, as was held in the present case, is only permissive and must be construed as a grant by the *lessee* to the *lessor* of the full right to build on his land, notwithstanding the resultant injury to the light, and the right to light under such circumstances cannot be acquired by twenty years' uninterrupted enjoyment.

In Mitchell *v.* Cantrill a lease had been granted to the plaintiffs "with all rights and appurtenances, legal or reputed, to the said plot of land, except rights (if any) restricting the free use of any adjoining land or the conversion or appropriation at any time hereafter of such land for building or other purposes, obstructive or otherwise," but this was held not to operate as an agreement or consent on the part of the lessee that the owner of the adjoining land might always have the right to obstruct the access of light to the lessee's house, within the exception in section 3 of the Prescription Act, and therefore a prescriptive right to the light could be acquired.

Technically, the reservation of an easement is in law the creation of an easement *de novo* by the grantee to the grantor; thus it is clear that the grant made by the grantee, or as in this case the lessee, back to the grantor or lessor must be expressed in clear terms in the reservation. The two cases above cited afford an example of the distinction between what will operate as an agreement preventing the acquisition of the prescriptive right to light under section 3 of the Prescription Act, and of an agreement which merely prevents the lessee from claiming the right to light by implied grant but leaves him free to acquire it by prescription.

We may refer to this case again when it is more fully reported. The present observations are founded only on the short report at present available.

NEW BUILDINGS IN LONDON

Bishopsgate.—PREMISES.—Messrs. W. H. Lorden & Son, Ltd., of 107, Trinity-road, S.W. 17, are the builders for a new building now in the course of erection at the corner of Bishopsgate and Houndsditch, E.C. Some of the sub-contracts are as follows: Lifts, Messrs. Waygood - Otis, Ltd.; and asphalt, The Improved Asphalte Co., Ltd. Messrs. Richardson & Gill, 41, Russell-square, W.C. 1, are the architects.

Camden Town.—ALTERATIONS.—Alterations to premises in High-street, Camden Town, N.W., are being done by Messrs. J. Greenwood, Ltd., 12, Arthur-street, E.C. 4, for Messrs. Marks & Spencer, Ltd. Mr. W. A. Lewis, of 11, Finsbury-square, E.C. 2, is the architect for the scheme.

Finchley-road.—SHOPS.—Tenders are now being invited for the erection of eight shops with flats over in Finchley-road. The Hendon Urban District Council has approved the plans. Mr. J. C. S. Soutar, L.R.I.B.A., of "Wyldes," North End, Hampstead, N.W. 3, is the architect.

Hendon.—LIBRARY.—Mr. T. M. Wilson, F.R.I.B.A., architect, is preparing plans for a new library to be erected beside the Town Hall, for the Hendon Urban District Council.

High Holborn.—PREMISES.—Messrs. The Westminster Wharfage Co., Ltd., are carrying out the excavation for the erection of new premises at 72–78, High Holborn, W.C.1. Messrs. Robert Angell & Curtis, 133, Regent-street, are the architects, and Messrs. F. & H. F. Higgs, of Station Works, Hinton-road, Brixton, S.E.24, are the builders.

King-street.—PREMISES.—On a site between King-street and Ironmonger-lane, Cheapside, E.C., a new building is being erected for the Atlas Assurance Co., Ltd. Messrs. Ashby & Horner, Ltd., 8, Aldgate, E. 1, are the builders; and Messrs. Redpath, Brown & Co., Ltd., are carrying out the steelwork. The architect is Mr. M. Waterhouse, of Staple Inn-buildings, W.C.

Mornington-crescent.—FACTORY.—Sir Robert McAlpine & Sons have secured the contract for the erection of a factory for Messrs. Carreras, Ltd. The site is opposite the Underground station. Messrs. M. E. & O. H. Collins, of 115, Old Broad-street, E.C., are the architects.

Spring-gardens.—OFFICES.—A block of offices is now being erected in Spring-gardens, S.W.1. Mr. J. J. Joass, F.R.I.B.A., 40, St. James'-place, S.W.1, is the architect, and Messrs. Hammond & Barr, Ltd., 52, Beauchamp-place, Brompton-road, S.W.3, are the builders.

Stratford-place.—ALTERATIONS.—Messrs. G.W. Higgins & Sons, Ltd., of 34, Connaught-street, W. 2, are carrying out extensive works of underpinning at Derby House. A new stone facing to the front elevation is being carried out by the Bath & Portland Stone Firms, Ltd. The architects are Messrs. Romaine-Walker & Jenkins, 6, Old Bond-street, W. 1.

Wandsworth.—ALTERATION.—Brick and steel will be largely employed in the reconstruction of Messrs. Supershows' picture theatre in Wandsworth-road. Messrs. Petch & Fermaud, 12, Buckingham Palace-road, S.W.1, are the architects. The capacity of the new theatre will exceed 3,000. The Super-Construction Co., 92 and 94, Wandsworth-road, are the builders.

Wharf-road.—CLINIC.—The Poplar Borough Council are considering the erection of a welfare clinic on a site between Wharf-road and Manchester-road and Bark-street and Ship-street. This scheme has so far not been approved.

Exchange Building, Hong Kong.

With reference to the illustration of this building, published on page 651 of our issue for October 22, and to the advertisement of Messrs. Gibbs & Canning, Ltd., relating to it, given on page lviii of the same issue, we are asked to state that Mr. W. D. Goodfellow was responsible for the design of the building, Mr. G. W. Grey (who was described as the architect for the work) having acted as the constructional engineer.

RATES OF WAGES IN THE BUILDING TRADE

Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.

	Masons	Bricklayers.	Carpenters Joiners	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers
Aberdare	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Accrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Alfreton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Alnwick	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Altrincham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ashford (Kent)	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Ashington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ashton-under-Lyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Aylesbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Aylsham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Banbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Barnsley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barnstaple	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Barrow-in-Furness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Basingstoke	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bath	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bedford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Berwick	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bexhill	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Birkenhead	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Birmingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bishop Auckland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Blackburn	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Blackpool	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bolton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bournemouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bradford	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bradford-on-Avon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Braintree	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Brentwood	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bridgwater	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Bridlington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Brighton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bristol	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bromsgrove	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bromyard	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Bungay	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Burnley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Burton-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bury	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Buxton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cambridge	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Canterbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Cardiff	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Carlisle	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chatham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chelmsford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Cheltenham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chesterfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chorley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Cirencester	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/1
Clacton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Colchester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Coventry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Cranbrook	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Crewe	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cromer	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Darlington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Deal	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Denbigh	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Derby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Devizes	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Dewsbury	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Doncaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Dorchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Dorking	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Dovercourt	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Driffield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Droitwich	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Dudley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Durham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Eastbourne	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
E. Glam.(Mon. Val)	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ely	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Exeter	1/7	1/7	1/7	1/7	1/7	1/7	1/6	1/2½
Exmouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Fakenham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Felixstowe	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Folkestone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Frome	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Glossop	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Gloucester	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Godalming	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Goole	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Gosport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Grantham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Great Yarmouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Grimsby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Guildford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Halifax	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Harpenden	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Harrogate	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hartlepools	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Harwich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Hastings	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hatfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hednesford	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hereford	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Herne Bay	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hertford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hitchin	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hoddesdon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Holt	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Huddersfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hull	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hunstanton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Huntingdon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Isle of Wight	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Ipswich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Keighley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Kettering	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kidderminster	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
King's Lynn	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Lancaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leamington Spa	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Leeds	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leicester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leighton Buzzard	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Lichfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Lincoln	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Littlehampton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Liverpool	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Llandudno	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Llanelly	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
London:								
12 m. radius	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/4½
12–15 m. radius	1/9	1/9	1/9	1/9	1/9	1/9	1/8	1/4
Loughborough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Lowestoft	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Luton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Macclesfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Maidstone	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Malvern	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Manchester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Mansfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Margate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Market Harb'rough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Matlock	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Melton Constable	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Melton Mowbray	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Merthyr Tydfil	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Middlesbrough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newark	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Newbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newcastle-on-Tyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newcastle-ur-Lyme	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
New Forest	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Newmarket	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Newport, Mon.	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Northampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Norwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Nottingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Nuneaton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Oakham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Oldham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Oxford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Paignton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Peterborough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Plymouth	1/8	1/8	1/8	1/8	1/8	1/8	1/7	1/3½
Pontypridd	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Portsmouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Preston	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ramsgate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Reading	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Redcar	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Redditch	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Reigate	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Retford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Ripon	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Rochdale	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Rochester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Rugby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Saffron Walden	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
St. Albans	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
St. Helens	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Sawbridgeworth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Saxmundham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Scarborough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Sevenoaks	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Sheffield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Shrewsbury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Sittingbourne	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Southampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Southend-on-Sea	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Southport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
South Shields	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stevenage	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stockport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stockton-on-Tees	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stoke-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stourbridge	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stourport	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stowmarket	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Stratford-on-Avon	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stroud	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/2
Sunderland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Swaffham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Swansea	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Swindon	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Tamworth	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Taunton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Thetford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Torquay	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Totnes	1/5	1/6	1/5	1/5	1/5	1/5	1/5	1/1
Trowbridge	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Tunbridge Wells	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Uttoxeter	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wakefield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Walsall	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Wallsend	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Warminster	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Warrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Warwick	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Wells (Norfolk)	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Welwyn Gar. City	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
West Bromwich	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Weston-sup.-Mare	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Weymouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1½
Whitby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wigan	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Winchester	1/5	1/5	1/5	1/5	1/5	1/5	1/6	1/1½
Windsor	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2½
Wisbech	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wolverhampton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Woodbridge	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Worcester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Worksop	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Worthing	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Wrexham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Wroxham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Wymondham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
York	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½

(For rates of wages in the Building Trade in Scotland, see page 844.)

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

NOVEMBER 22.—**Aldershot.**—EMPLOYMENT EXCHANGE.—Erection and completion of at Aldershot, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London. S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

NOVEMBER 22.—**Bignor.**—HOUSES.—For the Petworth R.D.C., viz.:—Bignor, two cottages in Bignor Village; Duncton, two on Graffham-road, near Herringbroom cottages; Fittleworth, eight opposite recreation ground; Kirdford, six, Townfield; Northchapel, three next to the Men's Club; Petworth, eight next to Gasworks cottages in Station-road; Sutton, four next to the smithy; Wisborough Green, six, Badgers, next to Upfield Villas. E. H. Staffurth, Clerk, "Avenings," Petworth.

NOVEMBER 22.—**Bulkington.**—HOUSES.—Ten houses, in pairs, on Butt Field, including drainage, for the U.D.C. O. G. Laban, surveyor, Arcade, Market-place, Nuneaton. Deposit £2 2s.

NOVEMBER 22.—**Burnley.**—TOWER.—Construction in reinforced concrete of water tower in connection with the new gasworks, Old Hall, for the Corporation. Borough Engineer and Surveyor.

NOVEMBER 22.—**Halifax.**—BUILDING.—Electricity sub-station at Skircoat Green, for the C.B. Borough Engineer, Crossley-street.

NOVEMBER 22.—**Liverpool.**—ADDITIONS.—To the Lisburn-lane Council School, for the T.C. Land Steward and Surveyor (Architectural Department), Municipal Buildings. Deposit £2 2s.

NOVEMBER 22.—**Plymouth.**—BUILDINGS.—Erection of three blocks of buildings, containing 36 flats in all, at Mount Stone, Cremyll-street, Stonehouse, for the County Borough Council. Corporation Housing Department, Sun Buildings, Plymouth. Deposit £2 2s.

NOVEMBER 22.—**Rochester.**—HOUSES.—Twenty-eight houses on the Maidstone-road housing site, for the T.C. W. Law, surveyor. Deposit £2 2s.

NOVEMBER 22.—**Rochester.**—STATION.—Construction in brick and concrete of a sewage pumping station, 40 ft. in diameter, at Strood, for the T.C. W. Law, City Engineer. Deposit £1 1s.

NOVEMBER 22.—**Shanklin.**—SHELTER.—Reinforced concrete shelter on the Homecliff Promenade, for the U.D.C. P. G. Cocks, Engineer and Surveyor.

NOVEMBER 22.—**Southend-on-Sea.**—EXTENSIONS.—Erection and completion of extensions to the refuse destructor, and works incidental thereto, at the Sewage Disposal works, Prittlewell, for the Corporation. Robert H. Dyer, Borough Engineer, Municipal Buildings, Southend-on-Sea. Deposit £2.

NOVEMBER 22.—**West Derby.**—ALTERATIONS.—To the reception block at Walton Institution, for the B.G. E. B. Bailey, L.R.I.B.A., F.S.I., 9, Cook-street, Liverpool.

NOVEMBER 22.—**Windsor.**—ADDITIONS.—Alterations and additions to the cottage at Blacknest, Sunninghill, for the R.D.C. W. Menzies, architect, Englefield Green, Staines. Deposit £1 1s.

NOVEMBER 23.—**Caerphilly.**—ELECTRIC LIGHTING.—Installation of wiring in 48 bungalows, now in course of erection at Ilan-road, Abertridwr, for the U.D.C. W. C. B. Hillman, Electrical Engineer.

NOVEMBER 23.—**Chorley Wood.**—TELEPHONE EXCHANGE.—Erection at Chorley Wood, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

NOVEMBER 23.—**Edinburgh.**—CONCRETING.—Reinforced concrete work of basement and foundations of turbine house at the Electric Generating Station, Portobello, for the T.C. E. J. MacRae, A.R.I.B.A., City Architect.

NOVEMBER 23.—**Felling.**—HOUSES.—Fifty houses on the Bog House estate, for the U.D.C. C. W. Hall, Architect, Council Buildings. Deposit £2 2s.

NOVEMBER 23.—**Leeds.**—HOUSES.—160 houses on the Wyther House housing estate, for the T.C. W. 1. Lancashire, City Engineer.

NOVEMBER 23.—**South Dublin.**—COTTAGES.—Forty-two labourers' cottages, for the R.D.C. G. Gallagher, Clerk of the Council, 1, James's-street, Dublin.

NOVEMBER 23.—**West Bromwich.**—ALTERATIONS.—Alterations, decorations and repairs at the institution in Hallam-street, for the B.G. J. P. Osborne & Son, architects, 95, Colmore-row, Birmingham.

NOVEMBER 24.—**Belfast.**—ALTERATIONS.—Alterations to wood floors at Ulsterville housing scheme, for the C.B. W. H. Stephens & Sons, 13, Donegall-square North. Deposit £1 1s.

NOVEMBER 24.—**Bramshill (Hants).**—COTTAGES.—100 cottages in pairs at the following sites, for the Hartley Wintney R.D.C.: Parishes of Bramshill, Crondall, Mattingley, Rotherwick, South Warnborough, Crookham, Eversley, Hartley Wintney, Odiham, and Yateley. Clerk, Council Offices, Hartley Wintney. Deposit £1.

NOVEMBER 24.—**Chester.**—CENTRE.—At Ardene Institute, Tarporley, for the E.C. F. A. Browne, F.R.I.B.A., County Architect, Newgate-street, Chester. Deposit £1 1s.

NOVEMBER 24.—**Chippenham.**—LAVATORY.—Public lavatory on the Town Bridge, for the T.C. Borough Surveyor.

NOVEMBER 24.—**Edmonton.**—HOSPITAL ALTERATIONS.—Carrying out of certain alterations to the Maternity Wards at the North Middlesex Hospital, for the Guardians of the Edmonton Union. J. C. S. Mummery, A.R.I.B.A., 34, Bloomsbury-square, W.C.1.

NOVEMBER 24.—**London.**—ELECTRICITY SUB-STATION.—Erection of, at Stamford Hill, Hackney, for Council of the Metropolitan Borough of Hackney. Borough Electrical Engineer, 18–24, Lower Clapton-road, E.5. Deposit £2 2s.

NOVEMBER 24.—**North Dublin.**—ADDITIONS.—Building of an additional room to a labourer's cottage at Convent View, Cabra, for the R.D.C. F. P. Russell, engineer, 7, D'Olier-street, Dublin.

NOVEMBER 24.—**Saddleworth.**—INSTALLATION.—Low pressure hot water, at Saddleworth Diggle new school, for the West Riding E.C. Education Department, County Hall, Wakefield.

NOVEMBER 24.—**St. Albans.**—COTTAGES.—Forty-four cottages at the Camp housing site, for the T.C. F. T. Negus, City Engineer and Surveyor, 96, Victoria-street. Deposit £1 1s.

NOVEMBER 24.—**Windlesham.**—HOUSES.—Ten non-parlour type (No. 2) houses in The Avenue, Lightwater, for the U.D.C. C. Gray, Surveyor, Council Offices, Bagshot. Deposit £2 2s.

NOVEMBER 25.—**Cork.**—HOUSES.—Twenty-four houses between Ballinlough and Boreenamanagh-roads, Cork, for the Irish Sailors and Soldiers Land Trust. Engineer, 30, Lower Fitzwilliam-street, Dublin. Deposit £2 2s.

NOVEMBER 25.—**Denbigh.**—TELEPHONE EXCHANGE.—Erection of, at Old Colwyn, Denbigh, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

NOVEMBER 25.—**Easington.**—EXTENSION.—Of the Union Offices at Easington, for the B.G. F. W. Girven, Architect, Council Offices, Easington, Co. Durham. Deposit £3 3s.

NOVEMBER 25.—**Hornsey.**—COTTAGES.—Thirty-two cottages, together with drainage and fencing, at the Rectory Gardens housing site, for the T.C. W. H. Adams, Deputy Borough Engineer and Surveyor, Town Hall, Highgate, N.6. Deposit £2.

NOVEMBER 25.—**Hoyland Nether.**—HOUSES.—Thirty-eight houses at the Platts Common site, for the U.D.C. J. R. Shephard, Engineer and Surveyor. Deposit £2 2s.

NOVEMBER 25.—**Manchester.**—HOUSES.—Erection of four houses and upwards on the Kingsway and Gorton estates (the number to which the tender applies to be set out on the form of tender), for the Housing Committee of the City of Manchester. Housing Director, Town Hall. Deposit £2 2s. to the City Treasurer.

NOVEMBER 25.—**Stourbridge.**—HOUSES.—104 non-parlour, three-bedroom houses, on the Grange estate, for the T.C. F. Woodward, Borough Surveyor and Architect. Deposit £2 2s.

✱NOVEMBER 26.—**London.**—PAINTING WORKS AND REPAIRS.—External painting works and minor repairs to the whole of the buildings at the Newington Institution, Westmoreland-road, S.E., for the Southwark Union. A. Saxon Snell & Phillips, Guardians' architects, 9, Bentinck-street, Manchester-square, W.C.1, on November 23, 24, 25 and 26, between the hours of 10 a.m. and 4 p.m. Deposit £5.

NOVEMBER 26.—**Northampton.**—HOUSES.—Erection of brick construction, or constructions of concrete, or alternatively 195 houses of cast-iron or steel, on the Gipsy-lane housing site, for the Housing and Town-Planning Committee of the County Borough of Northampton. Alfred Fidler, M.Inst.C.E., Borough Engineer, Guildhall, Northampton. Deposit £5 (crossed cheques made payable to Northampton Corporation).

NOVEMBER 26.—**Reading.**—POST OFFICE ENGINEERING GARAGE.—Erection and completion at Caversham, Reading, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

NOVEMBER 26.—**Southampton.**—FENCES.—Renewal of fences and paving at the Cattle Market, for the C.B. Borough Engineer, 33–35, French-street. Deposit £2 2s.

NOVEMBER 26.—**Worthing.**—HOUSES.—Alternative tenders for the erection in brickwork of 37 parlour and 51 non-parlour type houses in pairs, and blocks of three, four and five, on a site bounded by Hamroad and Ladydell-road, for the Corporation. P. E. Harvey, Borough Surveyor and Architect, Municipal Offices, Tudor Lodge, Worthing. Deposit £2 2s.

NOVEMBER 27.—**Formby.**—OFFICES.—New Council offices, for the U.D.C. The Architect. Deposit £2 2s.

NOVEMBER 27.—**Margate.**—REPAIRS.—To the stonework, brickwork and balcony of the Woodlands Water Tower, Wingham, for the T.C. Borough Engineer and Surveyor, 13, Grosvenor-place.

NOVEMBER 27.—**Stockton-on-Tees.**—COTTAGES.—Erection and completion of 33 pairs of "A" type cottages, nine pairs of "B" type cottages, and 17 blocks of flats, upon the Mount Pleasant housing estate, Norton road, Stockton-on-Tees, for the Corporation Borough Engineer, Victoria-buildings, Stockton-on-Tees; or the Architects, Lanchester, Lucas & Lodge, 19, Bedford-square, London, W.C.1. Deposit £2 2s.

NOVEMBER 27.—**Stratton St. Margaret.**—REPAIRS.—At the infirmary, for the Swindon and Highworth Union. Master of the Institution, Highworth-road, Stratton St. Margaret.

NOVEMBER 27.—**Swaffham.**—HOUSES.—Four houses at Gooderstone, for the R.D.C. I. Shingles, Clerk.

NOVEMBER 27.—**Taunton.**—HOUSES.—100 concrete houses, in blocks of two, on the Lambrook-road housing site, for the T.C. I. F. Shellard, Borough Engineer and Surveyor. Deposit £2 2s.

NOVEMBER 28.—**Flamborough Head.**—HOUSES.—Two houses and sinking well, off Lighthouse-lane, Flamborough Head. H. L. Fox, architect and chartered surveyor, 25, Bond-street, Leeds.

NOVEMBER 29.—**East Preston.**—COTTAGES.—Four cottages at Ferring, for the R.D.C. R. E. Booker, surveyor, Red Roof, Mill-lane, Rustington, Littlehampton.

NOVEMBER 29.—**Farnborough.**—STABLES.—For (*a*) Erection of stables, cartsheds and stores, together with accessory works, in connection with the proposed town depots at Sycamore-road, and (*b*) reconstruction of about 240 yds. of 9 in. diameter sewer in Southampton-street, for the U.D.C. J. E. Hargreaves, surveyor.

NOVEMBER 29.—**Guildford.**—HOUSES.—Six non-parlour type cottages in three pairs at Clasford, Worplesdon, for the R.D.C. J. W. Wilton, architect and surveyor, Market Chambers, Onslow-street. Deposit £2 2s.

NOVEMBER 29.—**Kanturk.**—ELECTRIC LIGHTING.—At the district hospital at Kanturk, for the North Cork County Board of Health. M. Regan, Secretary, Offices, Mallow. Deposit £2 2s.

NOVEMBER 29.—**Kanturk.**—HEATING.—Heating at the new district hospital to be erected for the North Cork County Board of Health. M. Regan, Secretary, Offices, Mallow. Deposit £2 2s.

NOVEMBER 29.—**Kanturk.**—HOSPITAL.—A district hospital at Kanturk, for the North Cork County Board of Health. Maurice Regan, Secretary, Offices, Mallow.

✱NOVEMBER 29.—**London.**—DRESSING PAVILION AND SHELTER.—Erection of a dressing pavilion adjacent to the running track at Finsbury Park, N., and of a shelter next to the bowling green at Clapham Common, for the L.C.C. Chief Officer, Parks Department, The County Hall, S.E.1 (Room 393 F.).

NOVEMBER 29.—**Oxford.**—AUTOMATIC TELEPHONE EXCHANGE.—Erection and completion of, at Headington, Oxford, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1 Deposit £1 1s. (cheques payable to the Commissioners).

NOVEMBER 29.—**Sheffield.**—PLUMBING.—Plumbers' and glaziers' work required for general repairs, for the T.C. P. Sharp, Director of Education, Education Office.

✱NOVEMBER 29.—**Southend-on-Sea.**—HOUSES.—Erection and completion of eight houses, comprising four parlour and four non-parlour type in two blocks of four, for the Corporation. Robert H. Dyer, Borough Engineer, Southend-on-Sea. Deposit £2.

✱NOVEMBER 29.—**Wolverhampton.**—HOSPITAL BUILDINGS.—Erection of new out-patients' and casualty departments and children's wards, for the Board of Management of the Wolverhampton and Staffordshire Hospital. W. H. Harper, House Governor and Secretary. Deposit £3 3s.

NOVEMBER 30.—**Burgess Hill.**—HOUSES.—Ten houses in Royal George-road, for the U.D.C. E. F. Farrington, Surveyor, 20, Church-road, Burgess Hill. Deposit £2 2s.

NOVEMBER 30.—**Greenock.**—EXCHANGE.—Employment exchange at Greenock, for H.M.O.W. Architect, H.M. Office of Works, 122, George-street, Edinburgh. Deposit £1 1s.

NOVEMBER 30.—**London.**—INTERNAL PAINTING AND CLEANING.—At General Post Office, South, Queen Victoria-street, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

NOVEMBER 30.—**Swansea.**—URINAL.—Public urinal at Clydach-road, Morriston, near the Midland Hotel, for the C.B. J. Richard Heath, Borough Engineer and Surveyor.

DECEMBER 1.—**Feckenham.**—COTTAGES.—For (*a*) Six cottages at Crabbs Cross; (*b*) eight ditto, Astwood Bank; (*c*) six ditto, Feckenham; (*d*) six ditto, Cookhill; and (*e*) six ditto, Inkberrow, for the R.D.C. J. J. Johnson, architect, 109, Rectory-road, Headless Cross, Redditch (for *a*, *b* and *c*); E. H. Earp, architect, Arrow, Alcester (for *d* and *e*). Deposit £2 2s. each.

✱DECEMBER 1.—**Hove.**—HOUSES.—Erection of 100 small houses at the Housing Estate, at The Knoll, Old Shoreham-road, for the Hove B.C. Borough Surveyor's Office, Town Hall, Hove. Deposit £3 3s.

DECEMBER 1.—**London.**—ALTERATIONS.—Sub-division of a room on the west side of the basement of the new block at St. Leonard's Hospital, Hoxton-street, N.1, for the St. Leonard's, Shoreditch, B.G. F. Danby Smith, F.R.I.B.A., Parliament Mansions, Victoria-street, Westminster, S.W.1. Deposit £2.

DECEMBER 1.—**Sheffield.**—SCHOOL.—Erection of Prince Edward Council School, on the Manor Estate, Intake, for the T.C. W. G. Davies, A.R.I.B.A., City Architect. Deposit £2.

✱DECEMBER 1.—**Wandsworth.**—ALTERATIONS AND ADDITIONS.—To the premises 79, East Hill, Wandsworth, S.W.18, for the Wandsworth B.C. E. J. Elford, M.Inst.C.E., Borough Engineer, 215, Balham High-road, S.W.17.

DECEMBER 2.—**Lambeth.**—OVERGROUND URINAL.—Construction of, in Webber-street, New Cut, S.E.1, for the Lambeth Borough Council. Osmond Cattlin, M.Inst.C.E., Borough Engineer, Lambeth Town Hall, Brixton Hill, S.W.2.

DECEMBER 3.—**Acton.**—HOSPITAL WARD.—New additional ward at the Isolation Hospital, Acton, for the Borough Council. Borough Engineer, Municipal Offices, Winchester-street, Acton, W.3. Deposit £1 1s.

★ DECEMBER 3.—**Neath, South Wales.**—POST OFFICE.—Erection of new post office at Neath, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Commissioners.)

DECEMBER 4.—**Ashbocking.**—HOUSES.—Pair of non-parlour type houses at Ashbocking, for the East Suffolk C.C. J. Webb, Surveyor, County Buildings, County Hall, Ipswich.

DECEMBER 6.—**Chelmsford.**—SCHOOL.—Erection and completion of a new elementary school, together with all outbuildings, fencing, playgrounds and caretaker's house, on the Boarded Barns Estate, Chelmsford, for the Town Council. Ernest J. Miles, Assoc. M.Inst.C.E., Borough Engineer, Municipal Offices, Rainsford House, Chelmsford. Deposit £2 2s.

★ DECEMBER 6.—**Reigate.**—WOOD-FRAMED BUILDING.—Construction of an asbestos and wood-framed building, approximately 80 ft. by 25 ft., on the site adjoining Hooley Council School, St. John's-road, Redhill, for the Reigate E.C. Borough Surveyor, Municipal Buildings, Reigate.

DECEMBER 6.—**Scotland.**—MAINTENANCE WORK.—Execution of maintenance works as follows: Edinburgh, Glasgow, Stirling, Aberdeen, Dundee—Carpenter and joiner and ironmonger; excavator, mason, and bricklayer; glazier; painter, paperhanger, and gilder; slater; plasterer; plumber; ironfounder and smith (not for Stirling). Paisley, Greenock, Perth, and Inverness—Carpenter and joiner and ironmonger; plumber, for H.M.O.W. Contracts Branch, H.M. Office of Works, Storey's Gate, S.W.1.

DECEMBER 7.—**Bri Chualann.**—CONVENIENCES.—Public lavatories, &c., on site between Municipal Baths and Strand-road, for the U.D.C. E. M. Murphy, Surveyor. Deposit £1 1s.

DECEMBER 9.—**Belfast.**—PLASTER WORK.—Excavation of plaster work at the new Museum and Art Gallery, Botanic Gardens Park, Belfast, for the Libraries, Museums and Art Committees of the County Borough of Belfast. R. B. Roe & Sons, quantity surveyors, Kingscourt, 17, Wellington-place, Belfast. Deposit £2 2s.

DECEMBER 9.—**Compton Bishop.**—HOSPITAL.—Isolation hospital at Compton Bishop, near Axbridge, Somerset, comprising administration, scarlet fever, diphtheria, observation, laundry, and disinfecting blocks, together with roads, drains, fences, &c., for the Axbridge, Burnham, and Highbridge Joint Isolation Hospital Committee. A. J. Pictor, F.R.I.B.A., 14, Queen-square, Bath. Deposit £2 2s.

★ DECEMBER 9.—**London.**—NURSES' HOME.—Erection of a new nurses' home at St. Mary Abbot's Hospital, Marloes-road, Kensington, W. 8, for the Guardians of the Parish of Kensington. Guardians' Offices, Marloes-road, Kensington, W. 8, between the hours of 10 a.m. and 4 p.m. (Saturday, 10 a.m. to 1 p.m.)

DECEMBER 9.—**Sligo.**—HOTEL.—Building of a hotel at Sligo Station, for the Great Southern Railway. Chief Engineer, Broadstone Station, Dublin. Deposit £2 2s.

DECEMBER 10.—**London.**—ALTERATIONS.—Alterations to the premises 587–591, Fulham-road, Fulham, for the Fulham B.C. H. M. de Colleville, A.R.I.B.A., architect, 48, Bedford-row, W.C.1. Deposit £3 3s.

★ DECEMBER 27.—**Reigate.**—DECORATION WORK.—External and internal decoration works at the Municipal Buildings and Fire Station, Reigate, for the B.C. Borough Surveyor, Municipal Buildings, Reigate.

NO DATE.—**Bowers Allerton.**—REPAIRS.—Painting of the premises; also general repairs, including roofs, walls, fireplaces, &c., at the Council school, for the West Riding E.C. H. W. Powell, Education Offices, Garforth.

NO DATE.—**Bradford.**—ADDITIONS.—Alteration and addition to nursery block at Bowling Institution, for the B.G. F. Holland, engineer and architect, 22, Manor-row.

NO DATE.—**Brixham.**—BUILDING.—Cottage hospital. J. A. Lucas, F.S.I., F.R.I.B.A., Chartered Architect and Chartered Surveyor, Guildhall Chambers, High-street, Exeter.

NO DATE.—**Doncaster.**—REBUILDING.—Of the Plough Inn, Armthorpe, Doncaster, for W. M. Darley, Ltd., Thorne. Garside & Pennington, architects, Pontefract.

NO DATE.—**Keighley.**—DEMOLITION.—Of buildings, walls, &c., at North Beck Mills, Keighley. Secretary, Ernest Robinson, Ltd., Keighley.

NO DATE.—**Leeds.**—ALTERATIONS.—Alterations and conversion of Enmoor Lodge, Chapeltown-road, Leeds, into residential flats. F. Mitchell & Sons, architects and surveyors, 9, Upper Fountaine-street Albion-street.

MATERIALS, etc.

NOVEMBER 23.—**Liverpool.**—MATERIALS.—20,000 super yds. concrete slabs, 2½ in. thick, 2 ft. gauge, in sizes of 3 ft., 2 ft. 6 in., and 2 ft., for the T.C. City Engineer.

NOVEMBER 25.—**Felling.**—MATERIALS.—Macadam, whinstone, kerb, setts, &c., Portland cement, sanitary pipes, cast ironwork, tar macadam, for the U.D.C. W. P. Parkin, Clerk of the Council, Council Buildings, Felling-on-Tyne.

NOVEMBER 29.—**Margate.**—MATERIALS.—200 tons of ½ in. granite chippings and 1,500 tons of ¾ in. to ¾ in. granite chippings, for the T.C. E. Brooke, Town Clerk, 13, Grosvenor-place.

DECEMBER 4.—**Maidstone.**—MATERIALS.—40,000 tons of broken roadstone, such as (1) Guernsey, Jersey, or Alderney granite; (2) Clee Hill basalt; (3) Leicestershire granites; (4) Penlee, St. Keverne, or other Cornish granites; (5) Northumberland whinstone; (6) Penmaenmawr or other Welsh granites; (7) quenast or lessines; (8) quartzite; (9) granite chippings; (10) broken blast furnace slag; or other suitable road materials, for the Kent C.C. H. T. Chapman, County Surveyor, St. Peter-street, Maidstone.

DECEMBER 6.—**Chatham.**—PIPES.—595 tons of cast-iron pipes and specials, for the T.C. W. H. Radford & Son, chartered civil engineers, Albion Chambers, King-street, Nottingham. Deposit £3 3s.

DECEMBER 7.—**Dublin.**—MATERIALS.—Iron castings, &c., paints, oils, chemicals, &c., stone paving setts and chippings, planks, deals, sheeting, &c., Portland cement, slates, &c., structural steel for shipbuilding and wrought iron, white and red lead, for the Dublin Port and Docks Board. E. H. Bailey, Secretary, Port and Docks Office, Westmoreland-street.

DECEMBER 9.—**Dublin.**—MATERIALS.—Bricks, castings, cement, glass, iron bars, lead, sheet, pipes, &c., oil, stoneware, pipes, and varnishes, for the Great Southern Railway Co. C. E. Riley, Secretary, Kingsbridge Terminus, Dublin.

JANUARY 10, 1927.—**Melbourne.**—STEEL PIPE-LINE.—For approximately 700 tons of 30 in. to 51 in. steel pipe-line with accessories, for the State Electricity Commissioners of Victoria. Department of Overseas Trade, 35, Old Queen-street, S.W.1.

ENGINEERING, IRON AND STEEL.

NOVEMBER 22.—**Manchester.**—STEELWORK.—Steelwork, &c., in extension to existing station, in turbine house, boiler house, switch house, and subsidiary works, at the Barton Power Station, for the T.C. H. C. Lamb, Chief Engineer and Manager, Electricity Department. Deposit £2 2s.

NOVEMBER 27.—**Torksey.**—BRIDGE.—Reinforced concrete bridge over the Fossdyke Navigation Canal at Torksey, between Lincoln and Gainsborough, for the Lindsey C.C. A. G. Bradshaw, County Surveyor, Newland House, Lincoln. Deposit £3 3s.

NOVEMBER 30.—**London.**—BRIDGE.—Girder bridges and flange plates, for the Madras and Southern Mahratta Railway. Secretary, 25, Buckingham Palace-road, S.W. 1. Charge £1 1s.

NOVEMBER 30.—**Portobello.**—WALL.—Reconstruction of the existing outfall at Portobello, together with sea wall and other incidental works, for the Brighton Intercepting and Outfall Sewers Board. D. Edwards, Engineer, Town Hall, Brighton. Deposit £10 10s.

DECEMBER 1.—**Alexandria (Egypt).**—BRIDGES.—Supply, construction and delivery to the Ministry of Public Works of seven opening and six fixed bridges, together with supplies of protective fender piling, &c., for the Commercial Secretary at Alexandria. Department of Overseas Trade, 35, Old Queen-street, S.W.1 (Reference A.X. 3773.)

DECEMBER 1.—**Denmark.**—BRIDGE.—Construction of the superstructure, substructure, as well as approach spans, with shore piers, for a double-track railway bridge across Lillebelt, for the Danish State Railways. Danish Legation, London. Deposit, Danish Kroner 500.

DECEMBER 2.—**Johannesburg.**—BRIDGES.—For (1) bridge at 14 m. 33 chs. Imvani, St. Marks Line; (2) Boksburg East footbridge; and (3) Longmarket-street, Maritzburg, footbridge, for the South African Railways and Harbours. Department of Overseas Trade, 35, Old Queen-street, S.W.1.

DECEMBER 2.—**Lisbon.**—DRY DOCKS.—For the completion of dry docks Nos. 3 and 4 at the port, comprising the supply of all the material and the execution of all the works, for the Harbour Board. Department of Overseas Trade, 35, Old Queen-street, S.W.1 (A.X.3807).

DECEMBER 3.—**London.**—STEELWORK.—Steelwork for bridges, for the South Indian Railway Co. Robert White & Partners, Consulting Engineers to the Company, 3, Victoria-street, S.W.1. Charge 10s.

DECEMBER 6.—**Lleyn.**—RESERVOIR.—Construction of a small concrete service reservoir (45,000 gallons capacity) and intake works, the excavating and refilling of pipe trenches, providing hauling, laying, and jointing about 2,810 lineal yards of cast-iron S. and S. pipes, 4 in. and 3 in. internal diameter, at Tre-or, South Carnarvonshire, together with all sluice valves, air valves, fittings, and other works connected therewith, for the R.D.C. T. B. Farrington & Son, engineers, Trinity-square, Llandudno. Deposit £3 3s.

DECEMBER 9.—**Cairo.**—RESERVOIR.—At the town of Minia El Khamh, for the Minister of the Interior, Municipalities and Local Commission Sections. Department of Overseas Trade, 35, Old Queen-street, S.W.1.

ROAD, SEWERAGE, AND WATER WORKS.

NOVEMBER 22.—**Broadstairs and St. Peter's.**—KERBING.—2,000 ft. of 6 in. by 12 in. granite kerbing, to be delivered to Broadstairs Railway Station or to various roads and depots in the district, for the U.D.C. H. Hurd, surveyor.

NOVEMBER 22.—**Farnworth.**—SEWERS.—Laying of sewers, building of manholes, &c., at Harper Green, for the U.D.C. F. Ashton, Surveyor. Deposit £2.

NOVEMBER 22.—**Glasgow.**—REPAIRS.—Concrete and granolithic work of playground at Bellahouston Academy, Ibrox, for the E.C. J. Clark, Director of Education. Deposit 10s. 6d.

NOVEMBER 22.—**Harmondsworth.**—FENCING.—Supply the Recreation Ground, Magpies, Bath-road, with 210 yds. of wrought iron fencing, 4 ft. high, with a 12 ft. gate, for the P.C. R. Flood, clerk, Council Office, Bath-road, Heathrow, near Hounslow.

NOVEMBER 22.—**Hull.**—SEWER.—For about 1¼ miles of street works and sewers on the East Hull housing site (final instalment—Marfleet-lane), for the T.C. F. W. Bricknell, City Engineer.

NOVEMBER 22.—**Hursley.**—SEWERAGE.—Connecting 44 Council houses at Fryern-hill, Chandler's Ford, to the main sewer. Weston, Burnett & Thorne, engineers, 24, Portland-street, Southampton.

NOVEMBER 22.—**Manchester.**—PAVING, &C.—Sewering, draining, paving (concrete), flagging (natural and artificial flags), &c., Burton-street, Gorton; sewering, draining, paving (concrete), &c., passage behind 2-38, Upper West-grove, C.-on-M.; sewering, draining, paving, (concrete), flagging (artificial flags), &c., Clevedon-street, Moston; sewering, draining, paving (granited rock asphalt), flagging (artificial flags), &c., Gilmour-terrace, Blackley, Melton-street, Blackley; draining, paving, (tarmacadam), flagging (artificial flags), &c., Warren-street, Blackley; draining, paving (granited rock asphalt), flagging (artificial flags), &c., Swinburn-street, Blackley; draining, paving (concrete), &c., passage behind 34-52. Whiteley-street, 147-165, Barrington-street, &c., Clayton, for the T.C. P. M. Heath, Town Clerk. Deposit £1 1s.

NOVEMBER 22.—**Sutton (Lancs).**—KERBING.—Kerbing, flagging, tar-macadamising, and completing a number of streets at Sutton Manor, St. Helens, for the Sutton Manor Collieries. Wm. J. Part, Secretary, Haydock Offices, near St. Helen's. Deposit £2 2s.

NOVEMBER 23.—**Dover.**—MAINS.—(1) About 426 yards of 4 in. water main in Old Folkestone-road. (2) about 100 yards of 12 in. sewer in Lower-road, River, for the T.C. W. B. Smith, Borough Engineer, Maison Dieu House. Deposit 10s. each.

NOVEMBER 23.—**Mitcham.**—EXTENSION.—Extension of soil and surface water sewers at Manor-road, approximate length 650 yards, for the U.D.C. Surveyor, Broadway House, London-road, Lower Mitcham.

NOVEMBER 24.—**Hatfield.**—MAKING-UP.—Of Beaconsfield Terrace-road, for the R.D.C. H. T. Sidwell, surveyor, "Priory House," Hatfield. Deposit £2 2s.

NOVEMBER 24.—**Southend-on-Sea.**—ROAD.—Construction of new road from Leigh Broadway to Rectory-grove, for the C.B. R. H. Dyer, Borough Engineer and Surveyor. Deposit £1.

NOVEMBER 27.—**Horsforth.**—MAINS.—West End sewer and water main extensions, approximately 420 yards 9 in. sewer and manholes, and 930 yards 3 in. water main, and Newlaithes-gardens surface water drainage, approximately 320 yards 12 in. sewer and manholes, also housing scheme, section 4, sewers and water mains, approximately 640 yards 9 in. sewer with gulleys, &c., and manholes, and 570 yards 4 in. and 3 in. water mains, for the U.D.C. Jas. E. Aldersley, Engineer.

NOVEMBER 27.—**Tywardreath.**—PATHS.—Making paths, road, and enclosing site proposed for burial ground at Tywardreath, Cornwall. A. J. Cornelius, F.R.I.B.A., architect, Truro.

NOVEMBER 29.—**Doncaster.**—PIPES.—Providing and laying about 1,500 yards of 6 in. cast-iron pipes, 150 yards of 9 in. and 3,357 yards of 12 in. cast-iron pipes, and 2,220y ards of 9 in. cast-iron pipes, for the T.C. F .O. Kirby, Water Engineer, 2, Priory-place. Deposit £1 1s.

NOVEMBER 29.—**Lytham St. Annes.**—SEWERS.—Construction of approximately 2,400 yards 33 in. diameter concrete main sewer, together with manholes, ventilating shafts, and other appurtenant works, for the T.C G. W. Lawson, the Borough Engineer and Surveyor. Deposit £5.

NOVEMBER 29.—**Margate.**—PAVING.—(*a*) Preparing site for and supplying and laying of approximately 3,200 square yards of reinforced concrete and wood paving in King-street and Dane-road, Margate; and (*b*) supplying and laying of approximately 1,400 square yards of reinforced concrete and asphaltic or bitumastic wearing surface in Marine-drive and Marine-terrace, for the T.C. Borough Surveyor, 13, Grosvenor-place.

NOVEMBER 30.—**Bucks.**—ROADS.—Road reconstruction works on a section of the London Oxford road, approximately 3½ miles in length; also a short by-pass at Gerrards Cross Common Cross-roads, for the C.C. E. Winfield, County Surveyor, Lloyds Bank Chambers, Aylesbury. Deposit £10.

NOVEMBER 30.—**Dalkey.**—MAINS.—Renewal of water mains (4 in. cast-iron turned and bored water mains, with valves, hydrants, junctions and accessories), for the U.D.C. J. G. Treston, Town Clerk.

NOVEMBER 30.—**Leigh.**—SEWERING.—Sewering of Lower Green, Astley, and the erection of a pump-house and pump well, for the R.D.C. W. J. Lomax, Engineer, 11, Fold-street, Bolton.

DECEMBER 1.—**Cairo.**—PIPES.—Pipes and fittings required in connection with the water supply of Minieh, for the Minister of the Interior, Municipalities and Local Commissions. Department of Overseas Trade, 35, Old Queen-street, S.W.1.

DECEMBER 1.—**Edinburgh.**—WIDENING.—Widening and resurfacing &c., of Warriston-gardens, off Inverleith-row, for the George Heriot's Trust. J. Anderson, F.S.I., Superintendent of Works.

DECEMBER 6.—**Barnsley.**—IMPROVEMENTS.—Making and completing Welbeck-street (part of); back road between Faith-street and Hope-street; back road between Hope-street and Charity-street; back road between Charity-street and Grace-street, for the C.B. Borough Engineer.

DECEMBER 6.—**Chatham.**—SEWERS.—Construction of sewers as follows: 380 yds. lin. 36 in. diameter iron pipe sewers; 340 yds. 30 in.; 200 yds. 24 in.; 125 yds. 21 in.; 430 yds. 18 in.; 130 yds. 9 in.; 150 yds. 7 in.; 100 yds. 27 in. diameter stoneware sewer; 280 yds. 24 in.; 360 yds. 21 in.; 800 yds. 18 in.; 635 yds. 15 in.; 2,520 yds. 12 in.; 3,400 yds. 9 in.; 11,800 yds. 7 in., for the T.C. W. H. Radford & Son, chartered civil engineers, Albion Chambers, King-street, Nottingham. Deposit £5 5s.

DECEMBER 6.—**Margate.**—SEWER.—Construction of 988 yards of 33 in. and 94 yards of 21 in. concrete tube sewer, for the T.C. E. A. Borg, Borough Engineer.

DECEMBER 6.—**The Malders and Coombe.**—SEWER.—For constructing about 328 yards run 18 in. stoneware soil sewer in heading about 20 ft. deep, with concrete tube manholes, from existing sewage works to a point near Beresford-road; constructing about 330 yards run 18 in. soil sewer in heading about 20 ft. deep, with concrete tube manholes, from S.E. side of railway to Green-lane, and construction of 330 yards run 9 in. soil sewer in open cutting, for the U.D.C. Engineer and Surveyor, Council Offices, New Malden. Deposit £2 2s.

DECEMBER 14.—**Barnes.**—MAKING-UP.—Of Enmore-gardens, including the extension of same to Stonehill-road, for the U.D.C. F. P. Kindell, Surveyor, The Council House, High-street, Mortlake, S.W.14.

Auction Sales, Tenders, etc.

*NOVEMBER 24.—**Kent.**—Veryard & Yates will sell, without reserve, at Mount Culver, Foots Cray, useful timber and building materials. Auctioneers, 365, Norwood-road, S.E.27.

*NOVEMBER 25.—**London.**—Veryard & Yates will sell, at Westmorland Service Station, Norwood-road, Herne Hill, the stock-in-trade, plant, tools and stores of ironmongery, machinery, fire extinguishers, &c. Auctioneers, 365, Norwood-road, S.E.27.

NOVEMBER 28.—**London.**—W. W. Howard Bros. & Co., in conjunction with Joseph Hibbard & Sons, will sell, at the Small Hall, Winchester House, Old Broad-street, E.C.2, stock of India and Burma hardwoods of various kinds laying at Crown Wharf, Canning Town, London, E., and at Tower Wharf, Southampton. Auctioneers, 15, Newington-green, Islington, London, N.16.

DECEMBER 7.—**Essex.**—Weatherall & Green will sell, at the London Auction Mart, 155, Queen Victoria-street, E.C., a freehold market and eight main road shops, also available for any commercial purpose, garage, cinema, dance hall, also freehold shops, Nos. 2A, 4, 6, and 10, Goodmayes-road, 5, Orchard-gardens, and 1, Westwood parade, and freehold ground rents, freehold building land in Pembroke-road, Auctioneers, 22, Chancery-lane, W.C.2.

*DECEMBER 10.—**Epsom.**—Chas. Osenton & Co. will sell (unless previously sold), by order of Messrs. Stone & Co., Ltd., at the "Spread Eagle" Hotel, Epsom, with vacant possession, close to and with access from the main London-Dorking road, the freehold known as The Nonsuch Brickworks, with private railway siding, having an area of about five acres. Auctioneers, Epsom, and 9, Old Jewry Chambers, E.C.2.

Competitions.

(*See Competition News page* 812.)

Public Appointments.

*NOVEMBER 26.—**Southport.**—Clerk of Works wanted at once for about 12 months (accustomed to large public buildings), by the Corporation. A. E. Jackson, M.Inst. C.E., Borough Engineer, Town Hall, Southport.

*DECEMBER 1.—**London.**—Clerk of Works required in connection with the erection of a public elementary school at Bush Hill Park, by the Edmonton E.C. Talbot Brown & Fisher, FF.R.I.B.A., "Burysteed," Wellingborough.

*DECEMBER 16.—**Lancashire.**—County Architect required by the Lancashire C.C. G. Hammond Etherton, Clerk of the Council, County Offices, Preston.

*NO DATE.—**Kenya.**—Mason builders required by the Government of Kenya for the Technical Training Branch of the Education Department for a tour of 30 months' service, with prospect of extension. Apply at once, Crown Agents for the Colonies, 4, Millbank, Westminster, S.W.1, quoting M/14720.

*NO DATE.—**Nigeria.**—Foreman of Works (10) required by the Government of Nigeria for the Public Works Department for two tours of 12 to 18 months' service, with possible extension. Apply at once, Crown Agents for the Colonies, 4, Millbank, Westminster, S.W.1, quoting M/14460.

Town Planning.

The Town-Planning Department of the Ministry of Health announces the following progress during the month ended October 31: Resolutions (Stage I), deciding to prepare town-planning schemes have been received from the undermentioned local authorities: Lancashire, Golborne U.D.C.; London, London C.C. (No. 7); Middlesex, Finchley U.D.C. (No. 2); Northants, Wellingborough U.D.C.; Surrey, Epsom R.D.C., Chessington.

Proposed New Monmouth Cathedral.

At Monmouth Diocesan Conference, at Newport, the Bishop of the Diocese moved a resolution that a committee be appointed to consider questions referring to the provision of a cathedral for the diocese of Monmouth and report at the next meeting. The Committee are to consider whether the time has come for taking steps to obtain a cathedral; whether any existing church can be properly adapted for a cathedral, or whether it is preferable that the future cathedral should be an entirely new building. The resolution was adopted unanimously.

Extending Brighton's Boundaries.

A new Parliamentary Bill is being prepared by the Legal and Parliamentary Committee of the Brighton Town Council seeking power to extend the Borough boundaries to the extent of some 10,000 acres, most of which is so far unspoiled downland. It is proposed to take in the villages of Rottingdean, Ovingdean, and part of Falmer, and the new boundary will extend from Rottingdean on the East to Portslade on the West. The proposed extension is regarded as the best way of securing the natural amenities of the Downs.

PROPOSED NEW BUILDINGS & OTHER WORKS*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B.E. for Board of Education; M.A.B. for Metropolitan Asylums Board; and M.W.B. for Metropolitan Water Board.

ALSTON.—The R.D.C. has received the M.H. sanction to the borrowing of £1,600 for the purpose of converting the Alston Workhouse into working-class dwellings.

AYR.—Schedules for the new cottage hospital at Kingsbridge, Devon, are not quite ready yet. The scheme consists of two six-bed wards, two single-bed wards, operating theatre, staff accommodation, baths, &c. Architect, A. Stevenson, 14, Cathcart-street, Ayr.

BALDOCK.—The U.D.C. has decided to build 24 houses of the bungalow style.

BARKING ABBEY.—Fencing work, at £686, has been recommended by the Essex E.C. at the Council school.

BARNES.—The U.D.C. passed plans: House, York-avenue, by Newborn & Smith; house, Fife-road, by Rosevears; house, Fife-road, by Rosevears; house, Berwyn-road, by Couch & Coupland; house, Lowther-road, by Ives Bros.; house, 12, Berwyn-road, by Newborn & Smith.

BATH.—The City Council has approved the Sanitary Committee's recommendation to purchase a piece of land, 7¼ acres in extent, with a frontage to Winterstoke-road, at £7,000, as a site for a refuse destructor, and for application to be made for sanction to borrow the sum.

BOURNEMOUTH.—The Corporation are to provide a sea wall and promenade at Fisherman's Walk, Southbourne, at a cost of £10,000.

BRADFIELD.—The B.G. has decided to inform the Berks C.C. and the Board of Control that they approved of recommendations made by a joint committee of the Board and the Berks County Council for structural alterations to the workhouse to accommodate in one wing a number of mentally defective female patients.

BRENTWOOD.—A folding screen has been recommended at a cost of £390 by the Essex E.C., at the County High School.

BRISTOL.—The City Council has decided to seek borrowing powers for a sum of £7,000 required in connection with the proposed erection of a destructor works upon a site comprising 7¼ acres in extent and fronting Winterstoke-road.

BROMLEY.—The T.C. passed plans: Three cottages, Homesdale-road, C. Tyler; house, Sundridge-avenue W. Levens & Son; 34 lock-up garages, Elsternwick, Plaistow-lane, S. Crisp; four garages, Siward-road, H. E. Kemp & Co.

BURTON LATIMER.—The U.D.C. has decided to build twenty houses and to advertise for alternative sites.

CANNOCK.—Lord Hatherton has laid the foundation stone of a Peace Memorial Hall at Tankridge, the centre of Cannock rural district. The estimated cost of the building is £2,500.

CATERHAM.—The M.A.B. recommend that the construction, at an estimated cost of £7,840, of the sanitary arrangements in ward blocks at Caterham Mental Hospital be approved, and the matter be referred to the Works Committee.

CHAILEY.—The R.D.C. has received from the M.H. approval to the purchase of sites of Hamsey, Chailey, Ditchling, Streat and Mill-lane, Plumpton, and also to the acceptance of the tender of Sherren, Ltd., of High Holborn, for the erection of 115 houses at £367 10s. per house, plus the cost of site works.

CHESTER-LE-STREET.—The U.D.C. is to apply for sanction to borrow £8,800 for the erection of twenty houses.

CHISWICK.—The U.D.C. has approved plans for the erection of 12 flats on the Glebe-street Infants' School site, at an estimated cost of £6,000.

CLACTON-ON-SEA.—The U.D.C. are to build a new town hall.

CLAYGATE.—The Esher and Dittons D.C. propose purchasing a site in Coverts-road for the erection of another 36 cottages. Plans have been passed for the erection of new houses in Stevens-lane and Foley-road.

COLCHESTER.—The T.C. passed plans: Ten houses, Ipswich-road, for E. Mower; eight houses, proposed new road leading from Ipswich-road to Dilbridge-road, for E. Mower; house, Lexden-road, for The Misses Bullen, per H. J. S. Gowen; house, Maldon-road for G. J. Hearsum; house, Mersea-road, for W. J. Jefford; pair of semi-detached houses, Greenstead-road, for Mrs. A. Wilby; house, Straight-road, Lexden, for Blewitt, per F. A. Cricher; pair of semi-detached houses, Drury-road, for Mrs. F. Kemp, per C. H. Green; three houses, Drury-road, for Appleton & Moss; pair of houses, Braiswick, Bergholt-road, for H. Allston & Son; house, Cambridge-road, for O. S. Locke; new printing works, East Stockwell-street for Cullingford & Co., Ltd., per Duncan W. Clark & Beckett.

CROYDON.—The C.B. passed plans: W. J. Frewing, house, Pampisford-road, next The Homestead; N. H. Cooper, house, Ham Farm; S. H. Laver, house, 17A, Bishops Park-road; J. Midmer & Son, 12 houses, Beulah-hill; C. Hall, two houses, Dering-place; Truett & Steel, eight lock-up shops, Brigstock-road, by Station; Costain & Sons, six houses, Croham Valley-road; McVay, Gurney & Co., two houses, Dean-road; C. S. Banks, house, Mapledale-avenue; Simmonds, Ltd., laundry, Canterbury-road, adjoining Council's land; Paish, Tyler & Crump, two shops, Thanet-place and High-street; S. Smith, amended plan for school buildings, Brighton-road; C. G. Moir, bungalow, Orchard Way; Rees & Partners, bungalow, Orchard Way; F. A. Snelgrove, garages, van shed and stable, Bensham-grove; A. T. Plant, house, Ryecroft-road; G. A. Thorne, six houses, Ena-road.

DAGENHAM.—The Essex E.C. recommend the erection of a movable partition at the Ford's Endowed School, at a cost of £219.

DARLEY DALE.—The managers of St. Elphin's Church of England School for Girls have decided to carry out important extensions.

DARLINGTON.—The T.C. has sanctioned the following plans: R. Blackett & Son, house, Cleveland-avenue; three bungalows, Coniscliffe-road; J. E. Chilton, two houses, Brinkburn-road and corner of Pierremont-road, and two houses, Geneva-road, and new shops and alterations, Gladstone-street and 63, Archer-street; T. Boyd, two houses, Geneva-road; F. Clark & Son, two houses, Milbank-road, near Cleveland-avenue; H. Parvin, eight houses, Geneva-road East; Darlington Co-operative Society, dairy, &c., Middleton-street; J. E. Chilton, two houses, lane off Durham-road at Low Beaumont Hill; six houses, the Stray and the Crossway; two houses, the Stray, Robinson & Shortland; two bungalows, Durham-road.

DERBY.—In order to find work for the unemployed, the T.C. recommends the expenditure of £5,000 for constructing a paddling pool at the Mundy Playing Fields.—The Parks and Baths Committee recommends the acceptance of land offered by the Estates Committee for new baths in Queen-street, and also land in Walker-lane for the same purpose.—They also recommended that fencing work, estimated to cost £950 be carred out at Derwent Park.

EALING.—Plans for 182 new houses were passed by the Ealing Town Council. Of these, 130 are to be erected by the Foundation Co., Ltd., 60 in Avalon-road, 32 in the Crossway, 18 in Downside-crescent, and 20 in Royle-crescent.—Sixteen new houses are to be erected by Vickery & Brooks in Blondin-avenue, eight by H. A. Steel in Niagara-avenue, six by W. Gardner in Niagara-avenue, five by H. J. Parker in Elm Grove-road, four by W. Daley & Co. in Tring-avenue, and one each by C. George in Gunnersbury-lane, by A. G. S. Lyford in Gunnersbury-avenue, by W. S. Grice in Edge Hill-road, by A. E. Brown in Midhurst-road, and by W. T. Burrows in Boston-road, Hanwell.—Eight houses are to be erected by F. G. Scott in Windmill-road, Greenford.—Plans were also passed for nine shops and flats by R. & T. Butler in Gunnersbury-avenue; for the erection of a factory by J. Lyons & Co. in Oldfield-lane, Greenford; and for a hall for St. John's Church in Green Man-lane, West Ealing.

EDMONTON.—Plans approved by the U.D.C.: Two houses in Percy-road, by F. Allwright; six houses, King Edward's-road, by A. Halls; house, Goodwin-road, by A. Halls; house, Goodwin-road, by R. Reading; and three shops at the corner of Village-road and Church-street, by Bethell, Swannell & Durnford.

ETON.—The R.D.C. passed plans: Stoke Poges, houses, for H. W. Andrews and C. R. A. Page; Langley, house, Meadfield-road, for P. I. Way; Burnham, house, for E. A. Criddle; house, Huntercombe-road, for Mr. Adams; Farnham Royal, office for Col. F. S. C. Thompson; building for the Paisley Oil & Chemical Co.; Gerrards Cross, switch chamber for the Electric Supply Co., and house for J. T. Hillie; Boveney, house for H. Prior; Denham, house for Dr. J. M. Bickerton.

EXETER.—It has been announced that a site has been secured for the crippled children's hospital, which it is proposed to provide for the County of Devon.

FARNHAM.—The U.D.C. are to make application to the M.H. for sanction to borrow £5,120 for the reorganisation of the municipal water pumping station.

FAVERSHAM.—The R.D.C. passed plans: Bungalow on Yorketts Farm estate, Hernhill, for E. Pearce; semi-detached bungalow at Lamberts Land, Hernhill, for G. W. Bennett; and a house near Waterham, Hernhill, for H. J. Knowler.

FECKENHAM.—Plans have been approved for the erection of a Baptist manse at Inkberrow.

FELLING.—The U.D.C. is to make application to the M.H. to erect 100 houses on the Bogg housing estate by direct labour, and for sanction to build another 50 houses.

FRIERN BARNET.—The U.D.C. passed plans: Five houses, Friern Watch-avenue, for J. Hutchinson; house, Oakleigh-park, for Miss M. P. Watson; two houses, Church-way, for Campkin & Elphick.

GODALMING.—The Management Committee has accepted the offer of Sir John and Lady Jarvis, of Hascombe Court, Godalming, of £7,500 to the Royal Surrey County Hospital for a new ward.

GRAYS THURROCK.—In connection with the erection of a reinforced concrete wall on the London-Tilbury road, the Essex Highways Committee recommend the spending of an additional sum of £338.

GREAT STAMBRIDGE.—The Essex E.C. recommend, at a cost of £1,400, an additional classroom at the Council school.

GUILDFORD.—Lord Midleton has stated that the High Steward of Guildford, Lord Onslow, had offered the option of a site for the Cathedral of the new diocese of Guildford.

HENDON.—The U.D.C. passed plans: Two houses and garages, 21 and 23, Millway, Mill Hill, and a pair semi-detached and detached garages, 117 and 119 Millway, Mill Hill, for H. Nicholls, Ltd.; two semi-detached houses, Brampton-grove, for W. T. Streather; detached house, Gresham-gardens, Golders-green, for

* See also our List of Contracts, Competitions, etc.

C. W. B. Simmonds; detached house and detached garage, 92, Millway, Mill Hill, for H. Nicholls, Ltd.; pair semi-detached houses, Glebe-crescent, Hendon, for A. P. Rey; eight detached houses, Road D, off Station-road, Hendon, for F. Howkins (H. Farrow builder); sub-station, south side Llanvanor-road, Child's Hill, North Metropolitan Power Supply Co.; nine houses, new road off Station-road, Hendon, for F. Howkins (H. Farrow, builder); three blocks flats, Hampstead Way, Garden Suburb, for Garrett & Sons; five shops, The Broadway, Mill Hill, for D. Morris & Sons, Ltd.; eight pairs of semi-detached houses and garages, Derwent-avenue, Mill Hill, for E. L. Saunders; 10 detached houses, Road D off Station-road, Hendon, for F. Howkins (H. Farrow, builder); 40 lock-up garages, rear of Tenby House, Brent-street, Hendon, for R. Lovell.

HOUGHTON-LE-SPRING.—The U.D.C. has obtained sanction from the M.H. for a loan of £15,072 for the erection of 36 additional houses.

HOUNSLOW.—The Gas Light & Coke Co. has acquired the premises of 178 and 180, High-street, for their local showrooms; they have also acquired a site at the rear of the "Red Lion" Hotel for the erection of stores.

HYDE.—The T.C. passed plans: Three houses, Parsonage-street, for J. Bramall & Sons, Ltd.; two houses, Lodge-lane, for T. A. Warrington.

KESWICK.—Plans for the proposed new Church of St. Charles at High Hill have been submitted to the U.D.C. and approved.

KIDDERMINSTER.—The T.C. passed plans: J. Harvey, six houses, Cherry Orchard; F. W. Woolworth & Co., Ltd., shop, Vicar-street; J. H. MacFarlane, house, Franche-road; G. R. Woodward, two houses, Aggborough-crescent.

LEAMINGTON.—The T.C. passed plans: House, Northumberland-road, for Mrs. Bursill; public house, Lower Tachbrook-street, for S. H. Jones & Co.; eight houses, Cubbington-road, for Leamington Slum Clearance, Ltd.; house, Guy Cliff-avenue, for Dr. F. Clayton; house, Northumberland-road, for Mrs. T. W. Meakin; house, Northumberland-road, for Mrs. Cashmore.

LETCHWORTH.—The U.D.C. passed plans: R. W. Smith, house, Spring-road; D. C. Pearce, house, Nevells-road; J. L. A. White, house, Willian Way; R. Hill, house, Hitchin-road; T. H. Dixon, house, Baldock-road.

LONDON.—The M.A.B. recommend the following: That approval be given to the relaying, at a total estimated cost of £605, of the floor of F.1 ward at the South-Western Hospital.—That, in connection with the provision of additional office accommodation for the steward's clerks at the Eastern Hospital, approval be given to the erection, at an estimated cost of £445, subject to the sanction of the M.H.—That approval be given to the provision, at a total estimated cost of £3,400, subject to the sanction of the M.H., of balcony accommodation on six ward pavilions at the Brook Hospital.—That approval be given, subject to the sanction of the M.H., to an additional estimated expenditure of £125 on the work of enlargement of the verandahs at St. Luke's Hospital.—The M.H. has sanctioned the following: Installation of electric light at Millfield, at an estimated cost of £630; and additional isolation accommodation at the South-Western Hospital.

LONDON (BERMONDSEY).—The L.C.C. recommend that a sum of £10,500, in respect of the erection of a temporary fire station in substitution for the existing Tooley-street station, be cancelled, and £16,250 for the erection of a permanent fire station on a site on the Hickman's Folly area, Bermondsey, be approved.

LONDON (DEPTFORD).—The B.C. in referring to the reports which have from time to time been submitted with regard to the buildings proposed to be erected in Harton-street, the modified plans have now been approved by the M.H., and they are therefore in a position to proceed with the matter, and the Council recommend the starting.—The B.C. also recommend that the women's swimming bath in Laurie-grove be erected in accordance with the plans prepared by the Borough Surveyor, at an estimated cost of £13,250, and that application be made to the M.H. for sanction to the borrowing of the money. Upon receipt of the loan sanction of the M.H. tenders are to be invited.—Plans passed: J. E. Billings & Co., Ltd., east side of New King-street and west side of Watergate-street, two blocks of tenements.

LONDON (FINSBURY).—The L.C.C. recommend the borrowing by the B.C. of £56,946 for housing purposes within the borough.

LONDON (HAMMERSMITH).—The L.C.C. recommend the expenditure of £450,000 in respect of the development of Wormholt estate, Hammersmith, by the erection of about 662 houses and the construction of roads and sewers.

LONDON (KENSINGTON).—The L.C.C. recommend the borrowing by the Royal Borough of Kensington of £10,500 for housing purposes.

LONDON (PECKHAM).—The L.C.C. recommend £300 submitted for the provision of a shelter at the bowling green at Peckham-Rye park.

LONDON (STOKE NEWINGTON).—The B.C. has received a notice from the L.C.C. stating that they have consented to the erection of the proposed church hall adjoining St. Olave's Church, Seven Sisters-road.

LONDON (STREATHAM).—The L.C.C. recommend £130 for provision of fencing for the grass lawn-tennis courts at Streatham Common.

LONDON (WOOLWICH).—The B.C. recommend that the estimate of £64,325 be approved, and that the Borough Engineer carry out the road work included in the estimate as and when required in connection with the building of 500 houses, &c.—The Council also recommend (a) that a further 60 houses on Section "C" of the Council's housing estate at Eltham be erected by direct labour under the supervision of the Borough Engineer, at an estimated cost of £35,620; and (b) that application be made to the L.C.C. to approve the scheme. Plans passed: W. Childs, six houses, Glenesk-road, Eltham; The Float Iron Laundry Co., laundry at rear of Messrs. Simpson's premises on north side of Eltham High-street; A. S. Tarry, eight houses, 72 to 86, Well Hall-road; G. Taylor, rebuilding 143, Crescent-road, Plumstead; E. C. Zoephel, factory, Harrow Manorway, Abbey Wood.

LONGBENTON.—The U.D.C. has received preliminary approval from the M.H. to erect 38 houses at Benton-square.

LOWESTOFT.—The C.B. has approved plans: Warnes & Son, cottage, Rotterdam-road; A. J. Knight, house, Warren-road; P. Huckle, bungalow, Yarmouth-road, Oulton Broad; F. Geater, four bungalows, Normanston drive.

MALLING.—The R.D.C. has passed plans: Bungalow at Blue Bell Hill, Aylesford, for Woodger; two cottages at Parsonage Farm, Stansted, for G. Leavey; cottage at Kits Coty Estate, Burham, for F. Purton; timber bungalow at Taylor's-lane, Trottescliffe, for J. W. Bance; concrete bungalow at Hallsfield-road, Blue Bell Hill, Aylesford, for E. Kite; house at Bullens, East Peckham, for Miss A. Barton.

MALVERN.—The U.D.C. passed plans: House near Golf House, Malvern Common, for A. W. Collins; chapel of ease, for the Rev. Mother, Ranelagh-road; shop, Howsell-road, for S. Caswell.

MANCHESTER.—Plans approved by the Corporation: Rev. Father B. Butter, tower to Church of Holy Name, Oxford-road and Ackers-street, Chorlton-upon Medlock, A. Gilbert Scott, architect, London; Didsbury Park Estates, Ltd., eight houses and revised plan of 86 houses, Dalston-drive, P. Cummings, architect, 51, King-street; Phormeum Co., Ltd., 48 houses, Errwood-road and Shawbroom-road; F. W. Woofenden, four houses, Longford-place and Ayton-grove, Rusholme, H. V. Dyson, architect, 48, Bridge-street; Jefferson & Peacock, two houses, Fog-lane, Didsbury, W. Cheetham, architect, Chapel-street, Didsbury; Jodrell Trustees, conveniences to premises, 77, King-street, H. S. Fairhurst, architect, 48, Brown-street; W. H. Coupe, plans of 16 houses, Worsley-avenue, Tindall-street and Kew-gardens, Moston, J. E. Kewell, architect, 296, Oxford-road; P. Frankinburg, public hall, &c., 89–95, St. James's-street, Oxford-street, W. L. Mellor, architect, 95, St. James's-street.

MATLOCK.—The U.D.C in regard to the question of water supplies of their whole district have called in Messrs. W. H. Radford & Son, of Nottingham, to prepare a report for their consideration.

MERIDEN.—The R.D.C. recommend that houses be erected in the following parts of the districts: Coleshill (20), Castle Bromwich (10), Hampton-in-Arden (20), Water Orton (20), Berkswell (20), and Over Whitacre (10), and that the Committee be authorised to submit the scheme to the Ministry for approval. Plans passed: Four houses, non-parlour, Allesley, for T. Bates & Son; two houses, parlour, Allesley, for J. J. Kirk; house, Allesley, for Mrs. Booth; house, Fillongley, for Mrs. A. Willis; three bungalows, Marston Green, for W. E. Broadway; house, Allesley, for H. Rowley; two houses, Water Orton, for C. F. Barradell; two houses, Castle Bromwich, for Alex. Francis; bungalow, Sheldon, for H. Johnson; two houses, Castle Bromwich, for J. C. Payne; house, Water Orton, for W. Andrews.

MORECAMBE.—Messrs. Edmondson Bros. (Morecambe), Ltd., of Main-street Saw Mills, are to build 80 houses on a site off Lancaster-road.

NEWCASTLE.—The Armstrong College has been promised a grant of £20,000 from the Miners' Welfare Central Committee for the purpose of building a new mining laboratory at the College. It was agreed to authorise the preparation of plans and the securing of tenders for the building of the proposed laboratory. The suggested site is the Queen Victoria-road frontage, to the south-west of the present building.

NEWTON ABBOT.—A site for a Crippled Children's Hospital has been obtained, and which, it is estimated will cost £18,000 to erect.

NORTHAM.—The application of the U.D.C. to borrow £2,000 for sea defence work at Westward Ho! has been the subject of a M.H. inquiry.

NORTHAMPTON.—The C.B. has decided to invite tenders for the erection of 194 houses on the Gipsy-lane site.—The Council has approved the Borough Engineer's estimate at £400, and decided to invite tenders for the structural alterations to the Horse Market.—Plans passed: Seventeen houses, The Drive and Brookland-road, for Lack, Revitt & Robinson; four lock-up garages, Melville-street, for Thos. Merriman; house and shop, Beech-avenue, for Mrs. Allibone; house, Queen's Park-parade, for A. L. & H. W. Chown; three houses, Garrick-road, for Lack, Revitt & Robinson.

NORTH CLAINES.—The Droitwich R.D.C. has decided to purchase a site in Station-road, Fernhill Heath, as a housing site.

OLDHAM.—The Borough Surveyor has been requested to get out estimates of cost for making the Park boating lake watertight.

PETERBOROUGH.—The T.C. has decided to apply to the M.H. for sanction to borrow £33,110 for the erection of 77 houses on the Herewood-road, Elm-street, and Park-street housing sites.

PLESHEY BRIDGE.—The Essex Highways Committee recommend £757 for the erection of a retaining wall.

PRUDHOE.—The U.D.C. has received permission from the M.H. to erect an additional 60 houses on the Castle Dene site.

RAMSBOTTOM.—The Streets and Building Committee resolved that the following building plan (amongst others) be recommended for approval: Catholic School on land in Queen-street, for St. Joseph's, Ramsbottom.

RAWTENSTALL.—The T.C. decided to apply to the M.H. for sanction to the borrowing of £32,870 for the erection of 54 houses, and the completion of the streets and sewers work on the Oakley estate.

RICHMOND.—The Surrey C.C. has granted permission for the erection of a public convenience on the north-west side of Kew Bridge.

ST. JUST.—The Committee of the St. Just Women's Institute have purchased a site for the erection of a women's Institute.

SUTTON.—The hospital authorities have purchased a site on nine acres for a new hospital.

WICKFORD.—The enlargement of two classrooms at the Council school, at £2,510, has been recommended by the Essex E.C.

WORTHING.—The T.C. passed plans: House, Hythe-road, for G. Harwood, by A. M. Butler; house, Brougham-road, for Miss Nicholson, by E. Cove; house, Broadwater-road, for Worthing Estates Building Co., by F. G. Abell; house, Brighton-road, for H. J. Waddington, by W. J. Webb; four houses and two garages, Grand-avenue at its junction with Tarring-road, for W. C. Butler, by H. M. Potter; house, Hythe-road, for G. Harwood, by F. J. Reid; two houses and garages, St. Thomas's-road, for Bridger & Son; two houses and shops, Broadwater-road, for Worthing Estates Building Co., by F. G. Abell; public-house, Broadwater-street East, for Tamplin & Sons' Brewery, Brighton, Ltd., by A. B. Packham.

FIRES.

BELFAST.—The premises of M'Kenna & M'Ginley, Ltd., aerated water manufacturers and bottlers, Bath-place, Belfast, has been gutted. The total damage is estimated at £15,000.

CATERHAM.—Sherbrooke Park House, which occupies a prominent position on Caterham Hill, was in danger of destruction, through an outbreak of fire in the domestic wing. Fortunately the main building was saved, but the servants' quarters were practically burnt out.

SOUTHEND.—Damage estimated at over £10,000 was caused by a fire in High-street, Southend-on-Sea, which destroyed the Strand Cinema, a building capable of seating 2,000 people, and an adjoining billiard hall, containing ten tables.

NATIONAL HOUSING CONFERENCE

At the National Housing and Town-planning Conference, which was held at Harrogate on Saturday last, Mr. F. M. Elgood, the Chairman, said that it was not satisfactory to know that there was likely to be a considerable downward revision of the subsidy. If they felt any reduction of subsidy was going to fall on local authorities, they ought to let the Minister and every one know it would be impossible to proceed with housing schemes.

Ex-Provost J. Norvil (Scotland) said that what was wanted from the Government was that they should take a long view of the nation's requirements and legislate on a well-thought-out scheme for a period of not less than five years. There should also be a greater sense of security, and more trust should be placed by Ministers in local authorities. The continual amending of the Housing Acts was having a very unsettling influence on housing progress in Scotland. Thousands upon thousands were still living in one-roomed houses because they could not pay the rents of the new ones. He could not visualise such a lowering of housing costs during the next five years as would bring the kind of house they desired within reach of the means of the poorer working classes. Whether they liked it or not, the subsidy in some form or other must go on for a considerable time yet.

Mr. J. G. Martin (Secretary) said that housing reformers were awaiting with considerable anxiety the statement by the Minister of Health as to the Government's future housing policy. There was a great deficiency of houses to be let at moderate weekly rents to the submerged section of the community. No one who had studied the question properly could go further than to declare that they were on the right road, but there were still many problems to overcome before they dared rest content.

Mr. R. Coppock (National Federation of Building Trade Operatives), said that if the 1924 Act programme was to be carried out then a continuance of the present subsidising of houses must be assured.

A resolution was carried declaring there was abundant evidence proving conclusively that there still remained a serious national deficiency of houses at weekly rents within the means of the lower paid wage earner, and urging the Government to continue the present financial provision of the Housing Acts for at least two years from October 1, 1926.

After discussion on the planning of built-up areas, the conference passed a resolution to the effect that the Minister of Health should be asked to promote the necessary legislation at an early date on the question of slum clearance schemes.

The conference decided also that, in view of the paramount importance and urgency for dealing with slum areas, local authorities should be strongly recommended immediately to take steps in preparing schemes in accordance with the Housing Acts.

PRICES CURRENT OF MATERIALS

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.

	£ s. d.
Best Stocks	4 5 6
Second Hard Stocks	3 19 6

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons, at King's Cross	2 13 3	Best Blue Pressed Staffs	9 5 0
Do. grooved for Plaster	2 15 3	Do. Bullnose	9 15 0
Do. Bullnose	3 8 3	Blue Wire Cuts	7 5 0
Best Stourbridge Fire Brick :—			
2½ in.	8 11 0	3 in.	10 3 0
GLAZED BRICKS—			
Best White Ivory, and Salt Glazed Stretchers	23 0 0	D'ble Str'tch'rs	31 10 0
Headers	22 10 0	D'ble Headers	28 10 0
Quoins, Bullnose and 4½ in. Flats	29 10 0	One Side and two ends	32 10 0
		Two Sides and one End	33 10 0
		Splays and Squints	31 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

BREEZE CONCRETE SLABS.

Delivered London.

	s. d.		s. d.
2 in. per yd. super	1 11	3 in. per yd. super	2 9
2½ in. " "	2 4	4 in. " "	3 6

	s. d.		
Thames Ballast	10 6	per yd.	delivered 2 miles radius Paddington.
Pit Sand	13 9	" "	
Thames Sand	14 6	" "	
Best Washed Sand	14 6	" "	
½ in. Shingle for Ferro-Concrete	12 9	" "	
¾ in. " "	14 0	" "	
¾ in. Broken Brick	11 6	" "	
Pan Breeze	7 6	" "	

Per ton delivered in London area in full van loads.

Best Portland Cement. British Standard Specification. Test 610s. alongside at Vauxhall in 80-ton lots.	£3 8 0 to £3 13 6
Ferrocrete per ton extra on above	0 10 0
Super Cement (Waterproof)	4 8 0
Roman Cement	8 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
" " Pink	5 10 0
Plaster, Coarse, Pink	3 0 0
" " White	3 12 6
" Fine	5 12 0
Strapite, Coarse	3 9 0
" Finish	3 17 0
Grey Stone Lime	3 0 9
Chalk Lime	3 0 9
Best Ground Blue Lias Lime	2 13 6
Hair per cwt.	2 2 6
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months carr. pd.

Stourbridge Fireclay in s'cks 37s. 0d. per ton at rly. dp.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 9½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	2 11½
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 4
Do. do delivered on road wagons at above stations, per ft. cube	4 5
White basebed, 3d. per ft. cube extra.	
NOTE.—1d. per ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.	
HOPTON-WOOD STONE—	s. d.
Delivered at any Goods Station, London.	
Random blocks from 10 ft. and over P. ft. cb.	17 0
Sawn two sides "	27 0
Sawn three or four sides "	32 0
YORK STONE, BLUE—*Robin Hood Quality.*	
Delivered at any Goods Station, London.	
6 in. sawn two sides landings to sizes (under 20 ft. super.) Per ft. super	5 6
6 in. rubbed two sides, ditto "	6 0
2 in. sawn two sides slabs (random sizes) "	2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) "	1 6½
1½ in. to 2 in. ditto, ditto "	1 4
HARD YORK—	
Delivered at any Goods Station, London.	
Scappled random blocks Per ft. cube	6 3
6 in. sawn two sides landing to sizes (under 40 ft. super) Per ft. super	5 1½
6 in. rubbed two sides, ditto "	6 1½
4 in. sawn two sides slabs (random sizes) "	2 10
3 in. ditto ditto "	2 1½
2 in. self-faced random flags Per yd. super	9 0

CAST STONE.

Delivered in London Area in full van loads, per ft. cube :—Plain, 8s. 6d.; Moulded, 9s. 6d Cills, 10s. 0d.

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£28 0	3 × 6	£21 0
4 × 9	25 0	3 × 11	25 0
4 × 8	24 0	2 × 11	25 0
4 × 7	23 0	3 × 9	24 0
3 × 8	21 0	2½ × 9	23 0
3 × 7	20 0	3 × 4½	22 0
2½ × 7	20 0	3 × 4	22 0

PLANED BOARDS.

1 × 11	£27 0	1 × 9	£26 0

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
⅝	20/-	1¼	31/-
¾	22/-	1½	34/-
1	25/-		

TONGUED AND GROOVED FLOORING.

Inches.	per sq.	Inches.	per sq.
1	25/-	⅝	16/6
1¼	31/-	¾	19/-
1½	34/-	1	24/-

Inches.	BATTENS. s. d.
4 × 2	2 6 per 100 ft.

SAWN LATHS.

Per bundle	0 2 4

1" AND UP THICK.

	£ s. d.	£ s. d.
Dry Austrian Wainscoat, per ft. cube	0 16 0 to 0 18 0	
Dry American and /or Japanese Figured Oak, ft. cube	0 15 0 to —	
Dry American and/or Japanese Plain Oak, ft. cube	0 11 0 to 0 13 0	
Dry sq. edged Honduras Mahogany, ft. cube	0 16 0 to 0 18 0	
Dry Log cut Honduras Mahogany, ft. cube	0 18 0 to 1 1 0	
Dry Cuba Mahogany, ft. cube	1 4 0 to 1 10 0	
Dry Teak, ft. cube	0 13 0 to 0 15 0	
Dry American Whitewood, ft. cube	0 11 0 to 0 14 0	
Best Scotch glue, per cwt.	4 10 0 to —	
Liquid Glue, per cwt.	4 7 0 to 5 10 0	

SLATES.

First quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000 of 1,200.

	£ s. d.		£ s. d.
24 by 12	37 12 6	18 by 10	21 2 6
22 by 12	34 0 0	18 by 9	18 12 6
22 by 11	31 5 0	16 by 10	17 12 6
20 by 12	29 15 0	16 by 8	13 15 0
20 by 10	25 12 6		

TILES.

Delivered at London rate stations in full truckloads of not less than 4 tons. Per 1,000 f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district	5 12 6
Ditto hand-made ditto	5 17 6
Ornamental ditto	6 2 6
Hip and valley tiles (per dozen) Hand-made	0 9 6
Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

	£ s. d.
R.S. Joists, cut and fitted	12 10 0
Plain Compound Girders	14 10 0
" Stanchions	16 10 0
In Roof Work	19 10 0

MILD STEEL ROUNDS.

To London Station, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
½ in.	12 0 0	⅝ in. to ⅞ in.	10 15 0
¾ in.	11 0 0	1 in. to 2½ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward if sent from London Stocks.)

	Tubes.	Fittings.	Flanges.
Black Gas	60 %	50 %	60 %
Galvanised Gas	45 %	40 %	50 %
Blue Water	55 %	45 %	55 %
Galvanised Water	38½ %	35 %	45 %
Red Steam	50 %	40 %	50 %
Galvanised Steam	32½ %	30 %	40 %

C.I. HALF-ROUND GUTTERS—London Prices, ex Works.

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/3½	11½d	3½d.
3½ in.	1/4½	1/1½	3½d.
4 in.	1/6	1/3	3½d.
4½ in.	1/7½	1/4½	4½d.
5 in.	1/10½	1/6½	5½d.

O.G. GUTTERS.

3 in.	1/8	1/4½	3½d.
3½ in.	1/8	1/4½	3½d.
4 in.	1/9½	1/4½	3½d.
4½ in.	1/11½	1/7½	4½d.
5 in.	2/4½	1/10½	5½d.

RAIN-WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain	1/10½	1/3	1/9½
2½ in. "	2/0½	1/4½	2/1½
3 in. "	2/6	1/9	2/7½
3½ in. "	2/11½	2/0½	3/0½
4 in. "	3/5	2/6½	3/8½

L.C.C. COATED SOIL PIPES—London Prices, ex Works.

Per yd. in 6 fts.	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. plain	3 3	2 4½	2 10
2½ in. "	3 9	2 7½	3 7
3 in. "	4 6	2 10	4 2½
3½ in. "	4 11½	3 7	4 11½
4 in. "	5 5½	4 0½	5 9

L.C.C. COATED DRAIN PIPES—London Prices ex Works.

Per yd. in 9 ft. lengths	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
3 in.	4 4	5 1	8 0½
4 in. " "	6 2	5 8	10 0
5 in. " "	7 2	10 10	17 1
6 in. " "	8 6	13 2	21 9

Gasken for jointing, 38/6 per cwt.

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Common Bars	13 0 0	to	14 10 0
Staffordshire Crown Bars—good merchant quality	14 5 0		15 5 0
Staffordshire Marked Bars	16 5 0		17 5 0
Mild Steel Bars	10 0 0		11 0 0
Steel Bars, Ferro-Concrete quality, basis price	10 0 0		11 0 0
Hoop Iron, basis price	12 0 0		13 0 0
" Galvanised	27 0 0		28 0 0
Soft Steel Sheets, Black—			
Ordinary sizes to 20 g.	13 5 0		14 5 0
" " 24 g.	14 5 0		15 5 0
" " 26 g.	16 5 0		17 5 0
Sheets Flat Best Soft Steel, C.R. & C.A. quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 10 0		16 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	16 10 0		17 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	18 10 0		20 10 0

No. 1 quality £4 per ton extra.

Flat and Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	18 10 0		19 10 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	19 0 0		20 0 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	22 0 0		23 0 0
Sheets Galvanised Flat, Best quality—			
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	22 0 0		23 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	24 0 0		26 0 0
Best Soft Steel Sheets, 26 g.	25 10 0		26 10 0
Cut Nails, 3 in. to 6 in.	19 0 0		20 0 0

(Under 3 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

LEAD, &c.

(Delivered in London.)	£ s. d.
LEAD—Sheet, English, 4 lb. and up	43 0 0
Pipe in coils	44 10 0
Soil Pipe	46 10 0
Compo Pipe	47 10 0

NOTE—Country delivery, 30s. per ton extra : lots under 3 cwt., 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills per ton	28 0 0	—
Do., ex country, carriage forward per ton	29 0 0	—

COPPER.

	s. d.
Seamless Copper tubes (basis) per lb.	1 1
Strong sheet "	1 0
Thin "	1 1
Copper nails "	2 3
Copper wire "	2 4

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	174/-	300/-	588/- per doz.

NEW RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	11/-	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1½ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

	1¼ in.	1½ in.	2 in.	3 in.
8 lbs. P. traps	33/-	41/-	56/-	101/- per doz.
8 lbs. S. traps	35/-	45/-	66/-	126/- "

TIN—English Ingots, 2/10 per lb. SOLDER—Plumbers 1/3, Tinmen's 1/6, Blowpipe 1/7 per lb.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil,	in pipes per gallon	0 3 0
" " "	in barrels "	0 3 1
" " "	in drums "	0 3 3
Boiled " "	in barrels "	0 3 3
" " "	in drums "	0 3 6
Turpentine	in barrels "	0 5 3
"	in drums (10 gall.) "	0 5 5
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		50 15 0
GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganawyte," "Polacco," "J" Brand and other best brands (in 14 lb. tins) not less than 5 cwt. lots per ton delivered		70 5 0
Red Lead, Dry (packages extra)	per ton	43 0 0
Best Linseed Oil Putty	per cwt.	0 15 0
Filocol	"	0 15 6
Size. XD Quality	ckn.	0 3 6

Continued on next page.

"The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS (*contd.*).

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES

	Per ft.		Per ft.
15 oz. fourths ..	3½d.	32 oz. fourths	7½d.
15 „ thirds	4½d.	32 „ thirds	9½d.
21 „ fourths ..	4½d.	Obscured Sheet, 15 oz...	3½d.
21 „ thirds	5½d.	„ „ 21 „ ..	5½d.
26 „ fourths ..	6d.	Fluted 15 oz. 6½d., 21 oz.	9½d.
26 „ thirds	7½d.	En'lled 15 oz. 5½d., 21 oz.	7½d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
⅛ Rolled plate	4½d.
3/16 Rough rolled	5½d.
¼ Rough rolled	6d.
Figured Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White..	6½d.
Ditto, tinted	9d.
Rolled Sheet	6d.
White Rolled Cathedral	5½d.
Tinted Do.	7½d.

Cast Plate is same price as rough rolled.

VARNISHES, &c.

		Per Gallon. £	s.	d.
Oak Varnish	Outside	0	14	0
Fine ditto	ditto	0	16	0
Fine Copal	ditto	0	18	0
Pale Copal	ditto	1	0	0
Pale Copal Carriage	ditto	1	4	0
Best ditto	ditto	1	12	0
Floor Varnish	Inside	0	18	0
Fine Pale Paper	ditto	0	18	0
Fine Copal Cabinet	ditto	1	2	6
Fine Copal Flatting	ditto	1	0	6
Hard Drying Oak	ditto	0	18	0
Fine Hard Drying Oak	ditto	0	19	0
Fine Copal Varnish	ditto	1	0	0
Pale ditto	ditto	1	2	0
Best ditto	ditto	1	12	0
Best Japan Gold Size		0	12	6
Best Black Japan		0	10	6
Oak and Mahogany Stain (water)		0	12	0
Brunswick Black		0	7	6
Berlin Black		0	14	6
Knotting (patent)		1	5	0
French and Brush Polish		0	17	0
Liquid Dryers in Terebine		0	9	0
Cuirass Black Enamel		0	7	0

TRADE NEWS

Swedenborg Memorial in London.

It is understood that the commission for the design of the proposed memorial in London to the mystic, Swedenborg, may be entrusted, should the project be carried through, to Mr. Carl Milles, Sweden's leading sculptor.

Redwood Doors.

Messrs. McGaw & Co., of York-road, S.E.1, illustrate many types of their well-known redwood doors in their latest catalogue. There are also shown various styles of garden gates and garage doors eminently suitable for the suburban type of house.

Planing and Thicknessing Machines.

In a well-produced catalogue, Messrs. J. Sagar & Co., Ltd., of Halifax, give a full description of their latest model of heavy, double-geared, roller-feed planing and thicknessing machine, designed to do both the heaviest and also the finest work in the planing, &c., of panels, boards, and heavy timber for any purpose. The machine includes a number of novel fittings which make for ease of handling and nicety of workmanship.

"Famous Doors of the World."

Messrs. The Woco Door Company, of Dashwood House, E.C. 2, are issuing a series of "Famous Doors of the World," in pamphlet form, the first being a reproduction on art paper of Ghiberti bronze doors to the Baptistry at Florence, on seeing which Vasari is said to have remarked, "They are so beautiful that they well would do for the gate of Paradise." Messrs. Woco Door Company carry a large stock of their guaranteed Woco and Woco-Laminex doors of the finest Columbian pine, all doors being trated by a special cell-preserving process rendering shrinking, warping, or twisting impossible. Enquiry for full information will be welcomed.

Obituary.

The death is announced of Mr. John Henry Bolley, at the age of 75, formerly one of the principals of the firm of Tree & Bolley, builders and contractors, of Exeter.

THE SCOTTISH BUILDER

NEW BUILDINGS IN SCOTLAND

Edinburgh.—BUILDINGS.—The second portion of a comprehensive scheme for the treatment of convalescent patients was submitted to the Edinburgh Dean of Guild Court, when the Astley-Ainslie Institution for convalescents from Edinburgh Royal Infirmary asked for warrant for the erection of three blocks of buildings at Southbank, Morningside. The total cost of the scheme is estimated at £150,000. One of the pavilions is for male and the other for female patients, and each building will accommodate about 40 persons. The Court granted interim warrant for two of the three blocks applied for. Sanction was also given to the following:—A. Bremner, three houses at Vivian-terrace, Davidson's Mains; J. G. Dick, double bungalow at Captain's-road, Liberton; J. Hardie & Son, two bungalows at Hailesgardens, Colinton; T. S. Henderson, three bungalows at Columba-road, Blackhall; Holiday Real Estate Co., Ltd., villa at Queensferry-road, Barnton: R. Marshall, bungalow at Queensferry-road, Blackhall; M. Oliver, double villa at West Barnton-terrace; R. A. H. White, villa at Oxgangs-road, Fairmilehead; Wm. Younger & Co., Ltd., bowling green pavilion at Marionville-road.

Dundee.—ALTERATIONS.—The L. & N.E. Railway directors have authorised the improvements at the Tay Bridge Station, Dundee. The scheme includes the moving forward of a stairway leading from Union-street to the platforms, and the provision of a larger area on the street level to facilitate the inlet and outlet of passengers. A verandah is also to be provided over the footpath at the Union-street entrance to afford protection in wet weather.

Greenock.—EXTENSIONS.—The building fund for the extension of the Greenock M'Lean Museum and the provision of an art gallery has benefited by a gift of £3,000 from Sir Hugh Reid, Glasgow, and his two brothers, Sir John Reid, and Mr. Andrew Thomson Reid. The amount immediately aimed at is £30,000, and when this is available extensions will be carried out with a view to providing art galleries, as well as an enlarged museum and lecture hall, and also a memorial hall with a commemorative piece of sculpture, and some record of the names of the men who fell in the Great War. It is considered that this limited scheme may suffice for a number of years, but the ultimate aim of the **Museum** Committee is to have a complete block of museum buildings extending from Kelly-street to Nelson-street.

Dundee.—HOUSES.—Plans and sections of proposed new buildings, &c., which have been lodged at the Office of the City Engineer, are as follows: Arbroath-road, houses, for the Northern Housing Association, Ltd. (Mr. W. B. D. Keith, architect, 10, Whitehall-street); and in Woodside-avenue, a shed, for the Corporation (Electricity Department).

Ayr.—EXTENSION.—The Town Council has decided to proceed with a provisional order for obtaining an additional supply of water for the town from Loch Recawr, at an estimated cost of £220,000 The existing supply is obtained mainly from Loch Finlas, and Loch Recawr is about four miles distant from Finlas in the Loch Doon area. An alternative scheme suggested by the engineers, Messrs. Warren & Stewart, C.E., Glasgow, is the raising of the level of Loch Finlas. This scheme is estimated to cost £183,380, but the engineers recommended the larger scheme, because it would meet the needs of the town for a longer period.

Obituary.

The death has occurred at 17, Mansionhouse-road, Edinburgh, of Mr. G. Morham, engineer and surveyor, in his eighty-first year.

Mr. Robert Crawford, New Cumnock, a contractor, has died at the age of eighty-five.

Scottish Regional Planning.

A paper on "Some Aspects of Regional Planning" was given by Mr. James Macaulay to the Royal Technical College Architectural Craftsmen's Society, Glasgow. Mr. Macaulay appealed for support for the Regional Planning Advisory Council for Scotland and the regional committees to be set up throughout the country, as well as for the whole town-planning movement, by affiliating with them and giving financial support.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons', Bricklayers', Plasterers'.
Aberdeen	1/8	1/8½	1/8	1/8	1/8	1/8	1/7	10½d. to 1/1
Airdrie	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3
Alexandria	1/8	1/8	1/8	1/8	1/8	1/8	—	1/2½ to 1/3½
Arbroath	1/7	1/7	1/7	1/7½	1/7	1/7	1/5½	1/1½
Ayr	1/8	1/8	1/8	1/8	1/8	1/8	1/6½	1/3
Bathgate	1/8	1/8	1/8	1/8½	1/8	1/8	1/6½	1/2 to 1/3
Blairgowrie	1/7	1/7	1/7	1/7½	1/5	1/7	1/4	10d. to 1/-
Bo'ness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Coatbridge	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3 to 1/3½
Dumbarton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Dumfries	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Dundee	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Dunfermline	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Edinburgh	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Falkirk	1/7½	1/7½	1/7	1/8	1/7	1/7	1/6½	1/2½
Fort William	1/8	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Galashiels	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Glasgow	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Greenock	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/0½ to 1/3½
Hamilton	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½
Hawick	1/7	1/7	1/7	1/7-1/7½	1/7	1/7	1/7	1/2½
Helensburgh	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½
Inverness	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/- to 1/3
Kilmarnock	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Kirkcaldy	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Kirkwall	1/5	1/5	1/4	1/5	1/5	1/4	1/4	1/-
Lanark	1/8	1/8	1/8	1/9	1/8	1/8	1/6	1/0 to 1/3
Leith	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Motherwell	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½
Perth	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3
Stirling	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Stirlingshire (Eastern District)	1/8-1/10	1/8 1/10	1/8	1/9	1/7	1/8	1/6½	1/3½
Wishaw	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 898.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	0
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

Portland cement concrete in foundation 1 to 6	per yard cube	32	0
Add if in underpinning in short lengths	" "	7	0
Add if in floors 6 in. thick	" "	3	3
Add if in beams	" "	3	9
Add if aggregate 1 : 2 : 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	2	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	30	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	1	10	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft super	0	0	1¼

POINTING.

Neat flat struck or weathered joint	" "	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—				
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	0
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	4	3
Three-quarter-inch vertical damp course	" "	8	6
½ inch on flats in two thicknesses	" "	6	3
Angel fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	2

MASON.

York stone templates fixed	per foot cube	13	0
York stone sills fixed	" "	22	0
Bath stone and all labour fixed	" "	10	6
Portland stone fixed	" "	20	0

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do 20 in. × 10 in. Do. Do.	"	80	9
Do. 24 in. × 12 in. Do. Do.	"	90	0

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	5	0
Do. joists	" "	5	6
Do. roofs, floors, and partitions	" "	6	0
Do. trusses	" "	8	6

	¾"	1"	1¼"	2"
Deal rough close boarding per sq.	35/6	40/-	45/-	72/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	50	0
Do. to beams	per ft. sup.	1	0
Centres for arches	"	1	6
Gutter boards and bearers	"	1	0

FLOORING.

	¾"	1"	1¼"	1½"
Deal-edges shot per sq.		44/6	53/-	60/6
Do. tongued and grooved "		49/-	57/6	65/-
Do. matchings "	45/-	51/-		
Moulded skirting, including backings and grounds per ft. sup.	1/6	1/9	2/0	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super.	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	3
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights; average size	" "	3	9

DOORS.

	1½"	1¾"	2"
Two-panel square framed per ft. sup.	2/1	2/4	2/6
Four-panel Do. "	2/5	2/8	2/11
Two-panel moulded both sides "	2/8	2/11	3/2
Four-panel Do. Do. "	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

	1"	1½"	1¾"
Plain deal jamb linings framed per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers "	1/4	1/6	1/9
Add if cross-tongued "	2d.	2d.	2d.

STAIRCASES.

	1"	1½"	1¾"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail: average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	16	3
Plain compound girders	"	19	0
Do. stanchions	"	21	9
In roof work	"	27	6

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/6	1/9	2/-	2/6
Ogee Do. Do.	"	1/9	2/-	2/6	3/3
Rain-water pipes with ears	"	1/9	2/7	—	—
Extra for shoes and bends	each	4/4	5/11	—	—
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	59	0
Do. Do. in flats	"	58	0
Extra labour and solder in coated cesspools	each	6	9
Welf joint	per ft. run	0	6
Soldered seam	" "	1	6
Copper nailing	" "	0	6

		½"	¾"	1"	1¼"	2"	4"
Drawn lead waste	per ft. run	1/2	1/9	2/-	3/4	4/-	—
Do. service	"	1/8	2/2	2/7	3/10	—	—
Do. soil	"	—	—	—	—	—	6/9
Bends in lead pipe	each	—	—	—	—	3/3	8/2
Soldered stop ends	"	1/2	1/8	2/1	2/10	3/6	—
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	"	—	—	—	14/7	19/6	—
Bib cocks and joints	"	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints	"	15/4	17/2	25/8	64/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	4
Do. Do. Sirapite	" "	2	7
Do. Do. Keen's	" "	3	7
Add sawn lathing	" "	1	7
Add metal lathing	" "	2	6
(Not including hangers or runners, &c., for suspended ceilings.)			
Portland cement screed	per yard sup.	2	2
Do. plain face	" "	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	9

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	0	8½
26 oz. Do.	" "	1	0
Obscured sheet	" "	1	1
⅛ in. rolled plate	" "	0	9
¼ in. rough rolled or cast plate	" "	0	10½
¼ in. wired cast plate	" "	1	4

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting, 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	" "	1	2
Preparing for and hanging paper	per piece, 2/- to 4/-		

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10 % on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

BY-PASS ROAD SCHEME FOR LONDON

A SCHEME for using existing railway bridges in the construction of a new by-pass road over three miles long between the West End and the City of London was laid before a recent meeting of the Royal Commission on Cross River Traffic.

The Chairman, Lord Lee of Fareham, said the Commission would give consideration to the scheme, which would cost £35,000,000.

The scheme was proposed by Sir John Hunt, on behalf of the Westminster City Council. He objected to the railway termini on the north side of the Thames being removed to the other side of the river. He suggested that the Southern Railway should be carried underground and under the river from a point south of London Bridge to Charing Cross and Cannon Street, with the underground loop connecting the latter two points on the north side of the river, and stations established at several points on the loop. The existing bridges and viaducts could then be handed over to the London County Council and transformed into a by-pass road between Charing Cross, Waterloo, Cannon-street, and London Bridge, and the stations used as omnibus termini and parking stations. This scheme would provide for both present and future needs. He suggested new stations on the proposed underground railway at Tooley-street, Thames-embankment, and Upper Thames-street, under and adjoining the arches of the existing railway viaducts and approaches of London Bridge, Waterloo, Charing Cross, and Cannon-street stations. The existing railway bridges at Charing Cross and Cannon-street could be left standing for the present.

The Westminster Corporation were anxious to preserve Waterloo Bridge if possible, and the witness was definitely opposed to a new bridge carrying six lines of traffic.

British Engineering Standards Association.

At the eighth annual general meeting of the British Engineering Standards Association, now in its twenty-fifth year of activity, Sir Archibald Denny, the chairman, in a short statement to the members reported that whilst the general work of the Association was in a most healthy condition, the finances, he regretted to say, were not. On March 31st last the Association had to face a total deficit of just over £2,500. This implied that for the time being, at any rate, they could not give effect to the expansion which should, and would, naturally take place, if the necessary funds had been at their disposal. With the help, however, of the Ways and Means Committee, the needs of the Association were being more prominently and more systematically brought to the notice of the many firms, public supply authorities, and others, who did not as yet subscribe to this national work. Also the scheme of membership which was mentioned last year had been put into operation, and was proving moderately successful, there being now some 600 members enrolled.

British Industries Fair.

Remarkable testimony to the force of the British Industries Fair in opening up new markets to home manufacturers was afforded by reports laid before the Birmingham Fair Management Committee at this week's meeting. The executive of the Birmingham Section stated that, up to November 9, the stand space applied for and allotted in next February's Fair was 25,000 square feet in excess of the total space occupied by the 1926 trade display in that city. It was satisfactory to note, the report added, that not only had the 1926 exhibitors decided, practically as a complete body, to show again in the following year, but no less than 40 per cent. had made early application for increased space.

Proposed New Municipal Buildings at Guildford.

The Guildford Town Council has appointed Professor A. E. Richardson, F.R.I.B.A., to report on sites for an Assize Court and Municipal buildings.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

*** Denotes *accepted*. † Denotes *provisionally accepted*.**
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modifications*.

ABERGELE AND PENSARN.—Twenty-two houses on the Abergele housing estate, including road construction work and works of sewerage in connection with the scheme, for the U.D.C. Mr. H. A. Jones, engineer and surveyor, Town Hall, Abergele.:—

T. G. Huxley, Chester	£11,300 0 0
Williams & Jones, Dyserth	11,065 3 4
Davies & Jones, Llanwrst	10,570 0 0
Edwards & Prichard, Old Colwyn	10,500 0 0
Powell & Hughes, Acrefair	9,950 0 0
H. Lloyd Jones, Denbigh	8,877 0 0
P. MacLachlan, Warrington	8,447 0 0

ABERTILLERY.—Twenty houses on the Bryn Ithe housing site, Aberbeeg, for the U.D.C. Engineer and Surveyor:—

*J. Snell, Abertillery ..... £432 15 each

ALSTON.—Converting the workhouse into dwellings, for the R.D.C.:—

*Craig Bros.

AMPTHILL.—Houses, for the R.D.C.:—

Shillington, six houses—
*C. Knight, Meppershall £2,094
Gravenhurst, four houses—
*W. H. King, Silsoe 1,248
Clophill, four houses—
*W. H. King 1,240
Maulden, eight houses—
*W. S. Arnold, Greenfield 2,550
Cranfield, four houses—
*Hillson Bros., Marston 1,520

ANDOVER.—Twelve pairs of semi-detached houses, with drains, appurtenant fencing and approaches, on the north side of Vigo-road, Andover, for the T.C. Mr. R. W. Knapp, Borough Surveyor:—

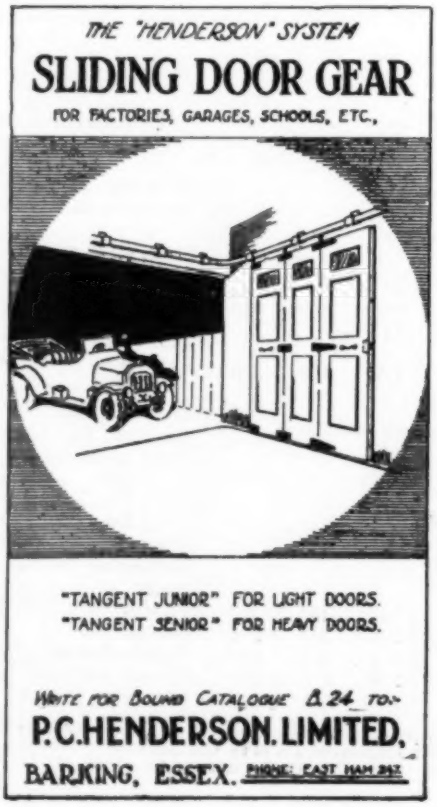
	Block A.	Block B.
T. Conway, Ltd., Weymouth	£7,397	£5,300
Appleton & Sons, Andover	7,280	5,350
Sturgess Bros., Ludgershall, Wilts.	7,728	5,525
F. Sainsbury & Son, Andover	6,940	*5,000

BENTLEY.—Four lock-up shops near the Council Offices:—

*A. Hall.

BEVERLEY.—Ninety-five houses—38 parlour and 57 non-parlour—on the Walker estate, for the T.C. Messrs. Whiteing & Reynolds, L.R.I.B.A., architects, 3, Ladygate, Beverley. Quantities by Messrs. Watson & Carter, Cogan-chambers, Hull:—

38 parlour houses—
*Robinson & Sawdon, Hull £16,784 7 3
57 non-parlour houses—
*Markwell, Holmes & Haytor, Ltd., Hull 21,133 0 0



BRAINTREE.—Fencing houses on the No. 2 site, for the U.D.C.:—

*Gepp & Berry £350

BROOKWOOD.—New house for the clerk and steward at Brookwood Mental Hospital, for the Surrey E.C.:—

*W. G. Sheppard, Guildford £1,420 6 9

BURY.—New electro-massage and X-ray departments, for the Bury Infirmary. Mr. C. M. Lillie, L.R.I.B.A., chartered architect, Brownedge, Bamber Bridge, Preston:—

Bolton & Hayes, Bolton	£9,571
T. Croft & Sons, Ltd. Preston	9,426
J. Gerrerd & Sons, Ltd., Swinton Mor	9,130
W. Townson & Sons, Ltd., Bolton	8,819
Thompson & Brierley, Bury	8,800
J. Greenwood, Ltd., Bury	8,545
A. Fenton, Manchester	8,449
*J. Tinline, Ltd., Bury	8,289
J. Sutcliffe & Sons, St. Anne's-on-Sea	8,270
J. Turner, Preston	8,067

CAXTON.—For (*a*) four houses at Bourn; and (*b*) four at Toft, for the R.D.C.:—

(*a*)* Mr. Gage.
(*b*)* Mr. Worboys.

CHORLEY.—New Roman Catholic Church for the parish of St. Oswald at Coppull, Lancs. Mr. Anthony Ellis, L.R.I.B.A., architect, 17B, Buildings, The Temple, Dale-street, Liverpool:—

*Bazendale Bros., Chorley.

CROYDON.—118 houses on the Waddon estate, for the C.B.:—

Twenty houses—
‡Nissen Petren Houses, Ltd.
Fifty houses—
‡Truett & Steel, Ltd.
Forty-eight houses—
‡Borough Engineer (direct labour).

DEVONPORT.—Alterations to Pethick's Wine and spirit vaults, 95, Fore street, for Messrs. Bass, Ratcliff & Gretton, Ltd., Burton-on-Trent. Messrs. F. J. Eedle & Meyers, architects, 8, Railway-approach, London Bridge, S.E. 1; and quantities by Messrs. Meyers & Lane, of the same address:—

R. C. Parkhouse	£2,250 0
F. J. Stanbury	2,167 0
G. H. Smith & Son	2,130 15
Wakeham Bros., Ltd.	1,973 0
A. N. Coles & Son, Ltd.	1,944 0
*Pearn Bros., Ltd.	1,899 0

(All of Plymouth.)

GALASHIELS.—Painting and glazing (*a*) eight houses in Wood-street and (*b*) eight houses Tweed-street, for T.C. Messrs. J. & J. Hall, architects:—

(*A*)
*D. J. Hope, Galashiels.
(*B*)
*Logan & Gray, Ltd., Glasgow.

GLASGOW.—Painting work required in the north, east, and south corridors of the second floor of the old buildings at the Municipal Buildings, for the T.C.:—

*G. M. Sellars & Sons £245

GLASGOW.—Wooden partitions required in the cooling-room of the Turkish baths at the Pollokshaws Baths and Washhouse, for the T.C.:—

‡John M'Donald (Contractors), Ltd. £218 4 10½

GLASGOW.—Reinforced concrete supports for strengthening the north wall of No. 3 coal store at the Dawsholm Gasworks, for the T.C.:—

‡A. M. Cochran & Co. £2,818 3 8

GLASGOW.—Generator-house for the T.C.:—

‡Heenan & Froude, Ltd. £52,210

GLASGOW.—Housing scheme at Hillhouse and Balgraybank, for the erection of 250 houses, for the T.C.:—

*Brown, Fraser & Co. £100,191 8 2

GLASGOW.—Sub-station in Cumlodden-drive, for the T.C.:—

‡G. Gibbs £460

GLASGOW.—Plaster work for the first section of the Balornock tenement scheme, comprising of 84 houses, for the T.C.:—

‡A. M'Kellar £2,694 13 4

HAMBLEDON.—Extensions at the Cranleigh sewage works, consisting of sedimentation tanks, percolating filters, humus tanks, alterations to old tanks, together with all works in relation thereto, for the R.D.C. Mr. P. G. Williams, surveyor, Council Offices, Bramley:—

Franks Harris, Guildford	£9,991 0 0
A. Streeter & Co., Godalming	9,378 13 6
A. Hardy & Co., Woking	9,191 0 0
Mears Bros., Lewisham	8,475 10 5
H. Middleton, Liss	7,617 7 7
H. Hartley, Westminster	7,315 7 7
Auchterlonie & Reeve	7,279 0 0
F. Warren & Son,	7,117 0 0
*J. A. Ewart, Ltd., Westminster	6,850 0 0

HULL.—Infectious diseases pavilion and isolation cubicle block, including drainage, roads, &c., at the Cottingham Castle estate, for the T.C. Mr. D. Harvey, A.R.I.B.A., City Architect. Quantities by Messrs. J. Watson & Carter, Cogan-chambers:—

*A. E. Jones (Hull), Ltd., Hull £11,372

LEEDS.—Fifty-two houses at Spring Bank-crescent, and Richmond-avenue :—
*Pickard & Co.

LEEDS.—Twelve houses on Tannery Field, Barkby-road, Beeston :—
*A. Roddy & Sons.

LONDON.—Reconstruction of the roof of the main engine house at the Southern outfall, for the L.C.C. :—

G. E. Everitt & Sons, Ltd.....	£4,647	17	7
‡D. G. Somerville & Co., Ltd...	4,111	8	9
Chief Engineer's estimate	4,479	7	7

(All of London.)

LONDON.—Alterations and additions at the High Wood Hospital for Children, for the M.A.B. :—

J. Hocking & Co.....	£1,380
C. H. Boyd & Son, Ltd.....	1,363
‡W. S. Sharpin	1,193

(All of London.)

LONDON.—Alterations to electric lighting at the North-Eastern Hospital, for the M.A.B. :—

Brightside Foundry & Engineering Co., Ltd., Birmingham	£355	0
Toy & Winslow	185	0
Read & Partners, Ltd.....	168	10
T. Clarke & Co., Ltd.....	160	0
Alpha Manufacturing & Electrical Co., Ltd.	150	10
‡Douglas Electric Lighting & Power Co.	150	0

(All of London.)

LONDON.—Alterations at the Grove Park Hospital, for the M.A.B. :—

Edwards Construction Co., Ltd.....	£250
Love & Co., Builders, Ltd.....	205
Douglass, Halse & Co., Ltd.....	185
L. Kazak	158
A. H. Inns, Ltd.....	156
‡J. Darch, Ltd.....	140

(All of London.)

LONDON.—Heating and hot-water service to discharge block, &c., at the Park Hospital, for the M.A.B. :—

Buckleys (London), Ltd.	£598	10
W. G. Cannon & Sons, Ltd.....	523	0
National Heating Co., Ltd.....	498	0
E. A. Denyer.....	494	0
H. & H. Davies	435	18
Fretwell Heating Co.....	412	0

(All of London.)

LONDON.—Verandah floor extensions and new entrance gates, at the Princess Mary's Hospital for Children, for the M.A.B. :—
‡C. H. Boyd & Son, Ltd., London.... £1,372

LONDON.—Engineer's house at the Western Hospital, for the M.A.B. :—

W. F. Goodchild	£1,450
H. Bragg & Sons, Ltd.	1,247
W. S. Sharpin	1,232
Burnand & Pickett, Ltd.	1,180
‡W. J. Marston & Son.....	965

(All of London.)

LONDON.—School in place of Magdalen-road temporary school, Wandsworth, for the L.C.C. :—

J. Carmichael (Contractors), Ltd.	£20,228
G. E. Wallis & Sons, Ltd., Maidstone	18,948
Rowley Bros.....	18,517
A. Monk.....	18,330
W. Akers & Co., Ltd.....	18,275
Holloway Bros. (London), Ltd.	18,063
H. Kent.....	17,994
Leslie & Co., Ltd.	17,947
Lole & Co., Ltd.....	17,911
J. Garrett & Son.....	17,849
J. Smith & Sons, Ltd.	17,770
J. & C. Bowyer, Ltd.....	17,567
J. Marsland & Sons, Ltd.	17,497
*Holliday & Greenwood, Ltd.....	17,298
The architect's estimate	17,543

(All of London.)

LONDON.—Structural work, for the rebuilding of "The Springfield" School, Kennington, for the L.C.C. :—

G. E. Wallis & Sons, Ltd., Maidstone	£36,994
Griggs & Son.....	36,920
W. Akers & Co., Ltd.	36,891
Rice & Son.....	36,672
Thomas & Edge	36,495
J. Marsland & Sons, Ltd.....	36,184
J. Carmichael (Contractors), Ltd...	35,955
T. D. Leng	35,940
W. H. Gaze & Sons, Ltd.....	34,858
J. Garrett & Son	34,768
‡J. & C. Bowyer, Ltd.....	34,694
Holliday & Greenwood, Ltd.....	34,090

(All of London.)

MACCLESFIELD.—Alterations and additions to the Council Offices, situate at King Edward-street, for the R.D.C. Mr. Geo. Clayton, Housing and Town-planning Surveyor, 19, King Edward-street; quantities by the Architect :—
*Cooper Bros., Macclesfield..... £4,670

MANCHESTER.—Improvements to the Derby Arms public-house, Derby-street and Bath-street, Hulme, Manchester. Messrs. Pendleton & Dickinson, architects, 16, Brazennose-street :—
*Artingstall & Rafferty, Manchester.

MANCHESTER.—Branch for the Manchester and Salford Equitable Co-operative Society, Ltd. :—
*Building Department, Co-operative Wholesale Society, Ltd., Manchester.

MANCHESTER.—Alterations to premises in Market-street, Manchester, for the Kardomah Cafe. Messrs. T. Arnold Ashworth & Sons, architects, 14, Castle-street, Liverpool :—
*Bland & Son, Blackfriars-road, Manchester.
Electric Light—E. Walker & Co., Ltd., Manchester.

MARCH (CAMBS).—Fifty houses at Upwell-road housing site, for the R.D.C. Mr. W. Fovargue, architect, The Causeway :—

A. N. Swearer & Son, Ramsey, Hunts.....	£28,532	1	9
S. Hill, March	25,344	8	0
C. Goakes & Son, March	24,650	0	0
*J. Eggitt & Sons, March	21,737	0	0

(Subject to the approval of the M.H.)

MIDDLETON (LEEDS).—Working Men's Club Thorpe-lane :—
*P. Rhodes, Ltd.

MIDDLETON.—Demolition of the existing road bridge and the erection of a new reinforced concrete bridge, at Middleton, for the Laurencekirk D.C. of the Kincardineshire C.C. Mr. D. J. Bell, County Road Surveyor, County Buildings, Stonehaven :—

W. J. Anderson, Aberdeen	£497	8	4
W. Tawse, Ltd., Aberdeen	468	18	3
James Scott & Son (Aberdeen), Ltd., Aberdeen	447	11	2
Clark & Chapman, Aberdeen	394	8	0
*A. Adamson, Laurencekirk.....	386	0	0

NORTHAMPTON.—Tramway shelter and police box, &c., at Abington Park, for the C.B. :—
*Ralph West £974

ONGAR.—For (*a*) six cottages at Shelly; (*b*) for four cottages at Norton Manderville; and (*c*) for four cottages at Blackmore, for the R.D.C. Mr. P. Pearce, Housing Surveyor :—

(*A*)

E. Hall & Co., Brixton.....	£3,028	0
W. Eaton Bros., Loughton.....	2,873	0
W. Norrington, Writtle	2,627	3
H. Parker, High Ongar	2,436	0
H. Acres, Shelly	2,429	0
*W. Noble & Son, Ongar.....	2,361	0

(*B*)

E. Hall & Co., Brixton.....	£2,019	10
W. Eaton Bros., Loughton.....	1,906	0
E. Dix, Ingatestone	1,679	0
W. Norrington, Writtle	1,676	0
H. Acres, Shelly	1,656	14
*H. Parker, High Ongar	1,645	15

(*C*)

E. Hall & Co., Brixton.....	£2,022	0
W. Eaton Bros., Loughton.....	1,917	10
F. Gaun, Stondon.....	1,797	0
E. Dix, Ingatestone	1,711	10
W. Norrington, Writtle	1,677	16
H. Parker, High Ongar	1,659	10
*H. Acres, Shelly	1,659	0

PENRITH.—Fifty houses, for the R.D.C. :—
*Armstrong & Son, Low Hesket £25,890 5

PETERBOROUGH.—Seventy-seven houses on the Hereward-road, Elm-street, and Park-street housing estates, for the T.C. :—
‡J. W. Barber. Stanground £33,110

PLYMOUTH.—Alterations to "The Athenæum" Hotel, 189, Union-street, for the New Victoria Brewery, Ltd. Messrs. F. J. Eedle & Meyers, architects, 8, Railway-approach, London Bridge, S.E. 1; quantities by Messrs. Meyers & Lane, of the above address :—

G. H. Smith & Son	£3,198	15	0
F. J. Stanbury	2,915	16	6
A. N. Coles & Son, Ltd.....	2,800	0	0
Wakeham Bros., Ltd.	2,499	0	0
Pearn Bros., Ltd.	2,367	0	0

(All of Plymouth.)

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PLYMOUTH.—Weights and Measures Office, Morice Town, for the C.B. Mr. J. Wibberley, Borough Engineer and Surveyor :—
*Plymouth Builders, Plymouth.

PLYMOUTH.—Alterations to "The Royal Alfred" Hotel, 28, William-street, Devonport, for the New Victoria Brewery, Ltd. Messrs. F. J. Eedle & Meyers, architects, 8, Railway-approach, London Bridge, S.E. 1; quantities by Messrs. Meyers & Lane, of the above address :—

Wakeham Bros., Ltd.	£3,669 0
Pearn Bros., Ltd.	3,360 0
G. H. Smith & Son	3,034 15
*A. N. Coles & Son, Ltd.	2,867 0

(All of Plymouth.)

PLYMOUTH.—Internal decoration of the Western Law Courts, for the C.B. Mr. J. Wibberley, Borough Engineer and Surveyor :—
*A. T. Osborne, Plymouth.

PONTEFRACT.—Extensions and alterations to the "Castle" Inn :—
*Barber & Heseltine.

PORTRANE.—Two small sanatoria for consumptives at Portrane Branch, Mental Hospital, Donabate, Co. Dublin, for the Joint Committee of the Grangegorman Mental Hospital Committee. Mr. J. J. Doyle, Chief Clerk and Accountant, Grangegorman Mental Hospital, Dublin :—

J. Clarke, Dublin.....	£3,166	1	5
J. Rooney, Balbriggan	2,803	10	4
J. Dowling & Co., Dublin....	2,450	0	0
S. Henly & Sons, Drogheda ..	2,443	17	7
*J. Duff, Skerries	2,326	0	0

PORTSMOUTH.—Garage, Kent-street, for Messrs. Wm. Millet, Ltd. Messrs. A. E. Cogswell & Sons, architects, Prudential Buildings :—

Tanner Bros., Southsea.....	£866
F. J. Privett, Southsea.....	847
John Lay & Co., Portsmouth	834
*Jno. Croad, Portsmouth	800

PORTSMOUTH.—Four blocks of flats in Voller-street, Landport, for the T.C. Mr. A. W. Ward, City Engineer :—

Samuel Salter, Southsea	£7,957
E. & A. Sprigings, Portsmouth	7,800
John Lay & Co., Portsmouth	7,584
Tanner Bros., Southsea	7,570
Portsea Island Co.-op. Society, Ltd. (Works Department)	7,400
*Howe & Bishop, Francis-avenue, Portsmouth	7,142

(Subject to the approval of the M.H.)

PORTSMOUTH.—Extension of King's motor depot, Messrs. Thomas & Wilkins, 30, Landport-terrace, Southsea :—

P.I.M.C.S., Portsmouth	£1,273
John Lay & Co., Portsmouth	1,200
Jones & Son, Portsmouth	1,169
Saml. Salter, Southsea	1,147
*F. J. Privett	1,147

PORTSMOUTH.—Conversion into flats of White Hart Barracks (married quarters), Portsmouth, for the T.C. Mr. A. W. Ward, City Engineer :—

Frank Bevis, Ltd.	£2,035
*Portsea Island Co-operative Society, Ltd., Works Department	1,950

ROUNDHAY (LEEDS).—Six garages at back Devonshire-lane :—
*Wm. Naylor.

SAFFRON WALDEN.—For (*a*) eight houses on the Little Walden site; and (*b*) 16 houses on the Thaxted-road site, for the T.C. :—

(*a*) *R. & P. Coke.....	£3,272	0	0
(*b*) *A. H. Perry.....	6,439	13	4

(Subject to M.H. approval.)

ST. HELENS.—Sixty non-parlour houses on Gerrard's-lane housing site, No. 9, for the C.B. Mr. A. W. Bradley, Borough and Water Engineer :—
*Clough & Gaskell, Wigan.

SHEFFIELD.—External painting to various houses for Estates Committee: (1) 200 houses, Wincobank estate; (2) 777 at Stubbin estate; (3) 664 Brushes estate; (4) 107 Manor estate; (5) 10 Stanhope-road; (6) 56 Woodhouse estate, 34 Laverack-street, and 16 Park-lane, Handsworth; and (7) 6 main-road, Handsworth. Mr. W. G. Davies, A.R.I.B.A., City Architect :—

*P. Lindley, Sheffield—
200 houses, Wincobank estate.
10 houses, Intake.
56 houses, Woodhouse estate.

*E. Hudson, Sheffield—
777 houses, Stubbin estate.

*Flint Bros., Sheffield—
664 houses, Brushes estate.

*W. Hamilton & Sons, Sheffield—
107 houses, Manor estate.
34 houses, Laverack-street, Handsworth.

*Rosewarne & Hurrell, Sheffield—
16 houses, Park-lane, Handsworth.
6 houses, Main-road, Handsworth.

SHEFFIELD.—For (1) Alterations and adaptation of College of Domestic Science, Leopold-street, into School Medical Department; and (2) removal of hospital hut and annexe from Redmires Camp and re-erection at Handsworth Council School, for the T.C. Mr. W. Geo. Davies, A.R.I.B.A., City Architect :—
*H. Teanby, Ltd., Sheffield.

SHEFFIELD.—Public conveniences at: (1) Park tram terminus; (2) Abbeydale-road (adjoining Council School); (3) Bridgehouses; and (4) Upwell-street, for the T.C. Mr. W. Geo. Davies, A.R.I.B.A., City Architect:—

(1) R. Charlesworth, Ltd.
(2 and 3) H. Teanby, Ltd.
(4) H. Knowles & Son.
(All of Sheffield.)

SHEFFIELD.—Internal painting, &c., at the Park and Walkley Branch Libraries, for the T.C. Mr. W. Geo. Davies, A.R.I.B.A., City Architect:—

Park Library—*Flint Bros. (part).
*A. Douthwaite (part).
Walkley Library—*E. Hudson.
(All of Sheffield.)

SOUTHEND-ON-SEA.—Extension of Marine-parade, Leigh, and incidental works in connection thereto, for the C.B. Mr. R. H. Dyer, Borough Engineer and Surveyor:—

*Abbott & Haddingham, Southend-on-Sea £2,100 5

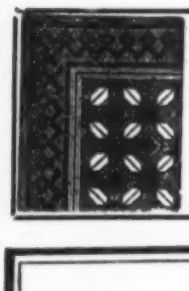
STAINES.—Pulling down and rebuilding (*a*) chimney shaft, and (*b*) certain alterations to the board room, at the London-road institution, Ashford, for the B.G. Mr. R. Wood, architect:—

(*A*)

Norris & Co., Sunningdale	£368	0
H. W. Yates, Sunningdale	283	0
†A. & A. Lake, Ashford.....	143	10

(*B*)

Norris & Co., Sunningdale	177	0
†H. W. Yates, Sunningdale	171	0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STOCKPORT.—Public urinal near the Crown Inn, Islington-road, Great Moor, and the reconstruction of the public urinal situated at the Bamford Arms Hotel, Buxton-road. Mr. H. Hamer, Borough Surveyor:—

*Ogdens, Ltd., Reddish.

SURBITON.—House at the Tolworth Recreation Ground:—

*Thorogood Bros. £900

TRURO.—Forty-six houses, for the R.D.C. Mr. H. L. Butler, architect, Rhondda House, Edward-street:—

14—*A. Jose & Sons, Redruth.
14—*Gregor & Hawkey, Perranporth.
4—*Menadue & Thomas, Perranporth.
6—*Mitchell, Devoran.
8—*Lobb, St. Austell.
Average price, £396 18s. 7d.

WHITBY.—Extensions and improvements to the Spa Theatre, for the proprietors:—

*F. W. Paxton.

WHITEHAVEN.—108 houses on the Bransty housing scheme "B," for the Borough Council. Mr. A. Wilson, Borough Engineer and Surveyor. Quantities by the Borough Engineer and Surveyor:—

A. E. Gadie, Bradford	£62,508	0	0
Building and Engineering Contractors, Ltd., Sheffield ..	53,078	0	0
Trueform Simplex Co., Ltd., Sutton Coldfield—Concrete	52,160	0	0
J. Cryer & Sons, Fleetwood..	47,493	0	4
J. Armstrong & Co., Cockermouth	47,279	0	4
The Border Engineering Contractors, Ltd., Whitehaven	46,773	14	0
*J. Leslie & Sons, Whitehaven	46,072	0	0

WORCESTER.—Electricity sub-station in Queen-street and the Trinity, for the T.C.:—

*C. Kimber, Worcester £2,813 18

WORCESTER.—Sub-stations in Hebb-street, for the T.C.:—

T. Johnson (Birmingham)	£677	0	0
Phelps & Johnson	591	17	6
‡Stokes Bros.	526	6	0

WORCESTER.—Lavatory at Gheluvelt Park, for the T.C. City Surveyor:—

*Haughton Bros., Worcester .. £661 5 6

WORCESTER.—Setting back the frontages of 13 and 14, Broad-street, for the T.C.:—

*Haughton Bros., Worcester .. £1,675 15

WORCESTER.—New Weights and Measures offices in the Trinity, for the T.C. City Surveyor:—

*C. Kimber, Worcester £3,023 0 1

WORCESTER.—Painting at Newtown Hospital, for the T.C. City Surveyor:—

*Pethord & Co., Lowesmoor £165

YORK.—Shop at the corner of Holgate-road and Blossom-street, for the T.C.:—

*W. Birch & Sons, Ltd..... £776

YORK.—Public conveniences in Parliament-street, for the T.C.:—

‡H. E. Turner & Son..... £2,865

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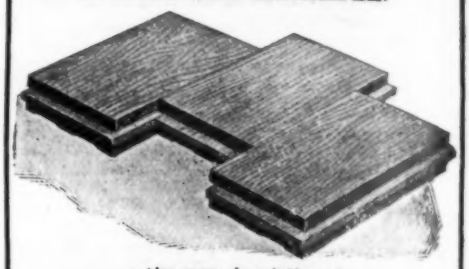
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